HP 3000 Computer Systems

HEWLETT PACKARD

A family of compatible business systems for distributed data processing

Configuration Guide

Effective December 1, 1980

HP 3000 Series 30

HP 3000 Series 33

HP 3000 Series III

HP 3000 Series 44

HP 3000 Computer Systems Configuration Guide

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HP 3000 Computer Systems

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FEATURES	SERIES 3x (Series 30 or 33)	SERIES III	SERIES 44
Central Processing Unit	214 firmware instructions	209 firmware instructions	214 firmware instructions
Fault Control Semiconductor Memory	256 Kb standard (1 Mb maximum)	256 Kb standard (2 Mb maximum)	1 Mb standard (4 Mb maximum)
I/O Channel for Discs	General I/O Channel (GIC)	Selector Channel	General I/O Channel (GIC)
	Up to 8 7906/7920/7925 disc drives (960 Mb maximum)	Up to 8 7920/7925 disc drives (960 Mb maximum)	Up to 16 7906/7920/7925 drives (1920 Mb maximum)
Terminals (Point-to-point, Multipoint, and System Console and DS/3000 virtual terminals)	Up to 48*	Up to 96	Up to 96*
Synchronous Communications Lines**	Up to 3 optional for Series 30 Up to 7 optional for Series 33	Up to 7 optional	Up to 7 optional
Magnetic Tape	Up to 4 drives (1600 bpi)	Up to 8 drives (800 or 1600 bpi)	Up to 8 drives (1600 bpi)
Flexible Disc	One 1.2 Mb flexible disc drive optional	Not available	One 1.2 Mb flexible disc drive optional
System Line Printers	Up to 2 line printers	Up to 4 line printers	Up to 4 line printers
Remote Character Printers	Up to 4	Up to 4	Up to 4
HP 2680 Laser Printing System	Available	Not Available	Available
I/O Slots for Expansion	8 standard (8 maximum) for Series 30 7 standard (20 maximum) for Series 33 Available for additional ADCCs (point-to-point terminals), printers, GICs (to support magnetic tape drives) or INPs (distributed communications boards)	9 standard (29 maximum) Available for additional ATCs (point-to-point terminals), printers, card reader, card reader/punch, paper tape reader, paper tape punch, magnetic tape or INPs (distributed communications boards)	8 standard (23 maximum) Available for additional ADCCs (point-to-point terminals), printers, GICs (to support magnetic tape drives), or INPs (distributed communications boards)

** Use of both point-to-point and multipoint terminals is required to achieve a system configuration with the maximum number of all peripherals.*

*** Refers to number of Intelligent Network Processors (INPs) supported, which provide communication links from the HP 3000 to other HP 3000s, IBM (compatible) mainframes, and multipoint terminals.*

PRODUCT SUPPORT MATRIX

Products supported on the Series 30, Series 33, Series III, and Series 44 are shown in the chart. (Series 30 or Series 33 Availability is indicated by 3x.) The support of hardware and software products is subject to change, however, with new releases of the MPE operating system.

AVAILABILITY			PRODUCT NO.	DESCRIPTION
				Software subsystems
3x	III	44	32233A	COBOL II/3000 Compiler
3x	III	44	32104A	RPG/3000 Compiler
3x	III	44	32102B	FORTRAN/3000 Compiler
3x	III	44	32111A	BASIC/3000 Interpreter & Compiler
	III		32105A	APL/3000 Language Subsystem
3x	III	44	32100A	SPL/3000 Compiler
3x	III	44	32190A	DS/3000 Distributed Systems Software
3x	III	44	30130E	RJE/3000 (2780/3780 Emulation)
3x	III	44	32192A	MRJE/3000 Multileaving Remote Job Entry
3x	III	44	32193A	MTS/3000 Multipoint Terminal Software
3x	III	44	32229A	IML/3000 Interactive Mainframe Link
3x	III	44	36578A	TDP/3000 Text and Document Processor
3x	III	44	32250A	DSG/3000 Decision Support Graphics
3x	III	44	36580A	IFS/3000 Interactive Formatting System
3x	III	44	36581A	IDS/3000 Interactive Design System
3x		44	32199A	Flexible Disccopy
3x	III	44	32205B	Scientific Library
3x	III	44	32900B	SIS/3000 Student Information System
3x	III	44	32902A	CIS/3000 College Information System
3x	III	44	32260A	Materials Management/ 3000
3x	III	44	32260UA	British Language Version Materials Management/3000
				Peripherals
3x		44	7906M,S	20 Megabyte Cartridge Disc Drive
3x	III	44	7920M,S	50 Megabyte Disc Drive
3x	III	44	7925M,S	120 Megabyte Disc Drive

AVAILABILITY			PRODUCT NO.	DESCRIPTION
3x	III	44	7925T	240 Megabyte Add-On Disc Storage System
3x		44	9895A-010	1.2 Megabyte Flexible Disc Drive
	III		7970B	800 bpi Digital Magnetic Tape Drive
3x	III	44	7970E	1600 bpi Digital Magnetic Tape Drive
3x	III	44	2621x	Interactive Display Terminal
3x	III	44	2624A	Interactive Display Terminal
3x	III	44	2626A	Interactive Display Terminal
3x	III	44	2640x	Interactive Display Terminal
3x*	III	44*	2641A	APL Display Station
3x	III	44	2642A	Enhanced Display Station
3x	III	44	2645x	Interactive Display Station
3x	III	44	2647A	Intelligent Graphics Terminal
3x	III	44	2648A	Graphics Terminal
3x			2649E	System/Maintenance Console
3x	III	44	2635B	Printing Terminal
3x	III	44	2631B	Dot Matrix Character Printer
3x	III	44	2675A	Thermal Printing Terminal
3x	III	44	3075A	Desk Top Data Capture Terminal
3x	III	44	3076A	Wall Mounted Data Capture Terminal
3x	III	44	3077A	Time Reporting Terminal
3x	III	44	2601A	40 cps Daisy-Wheel Printer
3x	III	44	2613A	300 lpm Drum Line Printer
3x	III	44	2608A	400 lpm Dot Matrix Line Printer
3x	III	44	2617A	600 lpm Drum Line Printer
3x	III	44	2619A	1000 lpm Chain Line Printer
3x		44	2680A	Intelligent Page Printer
	III		30106A	Card Reader Subsystem
	III		30119A	Card Reader Punch Subsystem
	III		30105A	Paper Tape Punch Subsystem
	III		30104A	Paper Tape Reader Subsystem
	III		30126A	CalComp Plotter Interface Subsystem
3x	III	44	7260A	Optical Mark Reader

**Supported as an HP 2645A (APL features are not supported.)*

Support for foreign device users—There may be occasions when it is desired to interface a non-Hewlett-Packard product to an HP 3000. Support for the foreign device and system modifications required to drive it are the responsibility of the customer. If the HP 3000 exhibits problems resulting from the foreign device, the system must be reconfigured to its original Hewlett-Peckard configuration end with the current supported version of the operating system before service can be rendered under the Customer Maintenance Agreement. Hewlett-Packard will not warrant compatibility of operating systems, user subsystems, or modifications to Hewlett-Packard hardware necessitated by design updates with any non-Hewlett-Packard product to an HP 3000.

HP 3000 SERIES 30 SYSTEM PROCESSOR UNIT

Hardware Supplied

- Central Processing Unit
- 214 firmware instructions
- System Clock
- General I/O Channel for discs, line printers, flexible disc and Intelligent Network Processors (INPs)
- 256Kb fault control memory with memory controller
- System cabinet, one card cage and power supplies
- 8 spare I/O slots and space for 1024Kb memory
- Room for 32 terminals including system/maintenance console

Required Hardware Ordered Separately

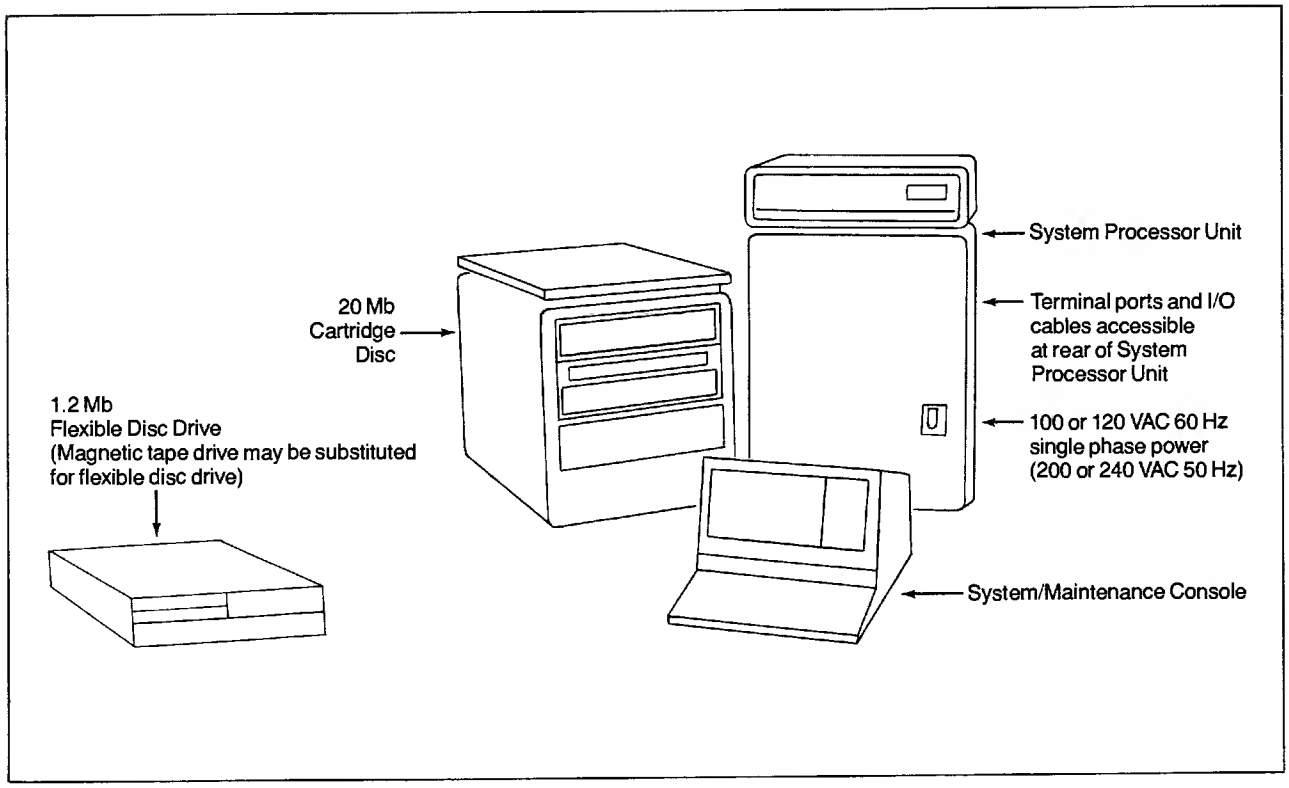
- System/maintenance console (includes cable)
- One Asynchronous Data Communications Controller (ADCC-Main) (provides four asynchronous terminal ports)
- Series 30 systems with *more* than 20 Mb disc storage require, for software distribution and back-up, either:
  1) a magnetic tape drive, or
  2) a flexible disc drive (9895A with opts. 010, 333) and dedicated serial disc (7906S, 7920S, 7925S).
- Series 30 systems with *only* 20 Mb disc storage require, for software distribution and back-up, either:
  1) a magnetic tape drive, or
  2) a flexible disc drive (9895A with opts. 010, 333).
- System disc with controller (20 Mb, 50 Mb or 120 Mb)

Software Supplied

Standard on each HP 3000 system is the Fundamental Operating Software which includes:

- Multiprogramming Executive (MPE) Operating system
- Text editor (EDIT/3000)
- File copying utility (FCOPY/3000)
- Sort and merge package (SORT-MERGE/3000)
- Data base management system (IMAGE/3000)
- Data base inquiry language (QUERY/3000)
- Keyed Sequential Access Method Software (KSAM/3000)
- Forms management software (HP V/3000)
- Facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)
- Complete user manual set

HP 3000 Series 30 Minimum Configuration



Note: Power outlets for disc and terminal not provided in System Processor Unit. Under certain power line conditions at the system site, an isolation transformer or other line conditioning equipment may be required. Refer to Site Preparation section of this guide.

HP 3000 SERIES 33 SYSTEM PROCESSOR UNIT

Hardware Supplied

- Central Processing Unit
- 214 firmware instructions
- System Clock
- General I/O Channel for discs
- General I/O Channel for line printers, flexible disc and Intelligent Network Processors (INPs)
- 256Kb fault control memory with memory controller
- System desk mainframe, one card cage, and power supplies
- 7 spare I/O slots and space for 1024Kb memory
- Room for 32 terminals including system/maintenance console
- Built-in isolation transformer

Required Hardware Ordered Separately

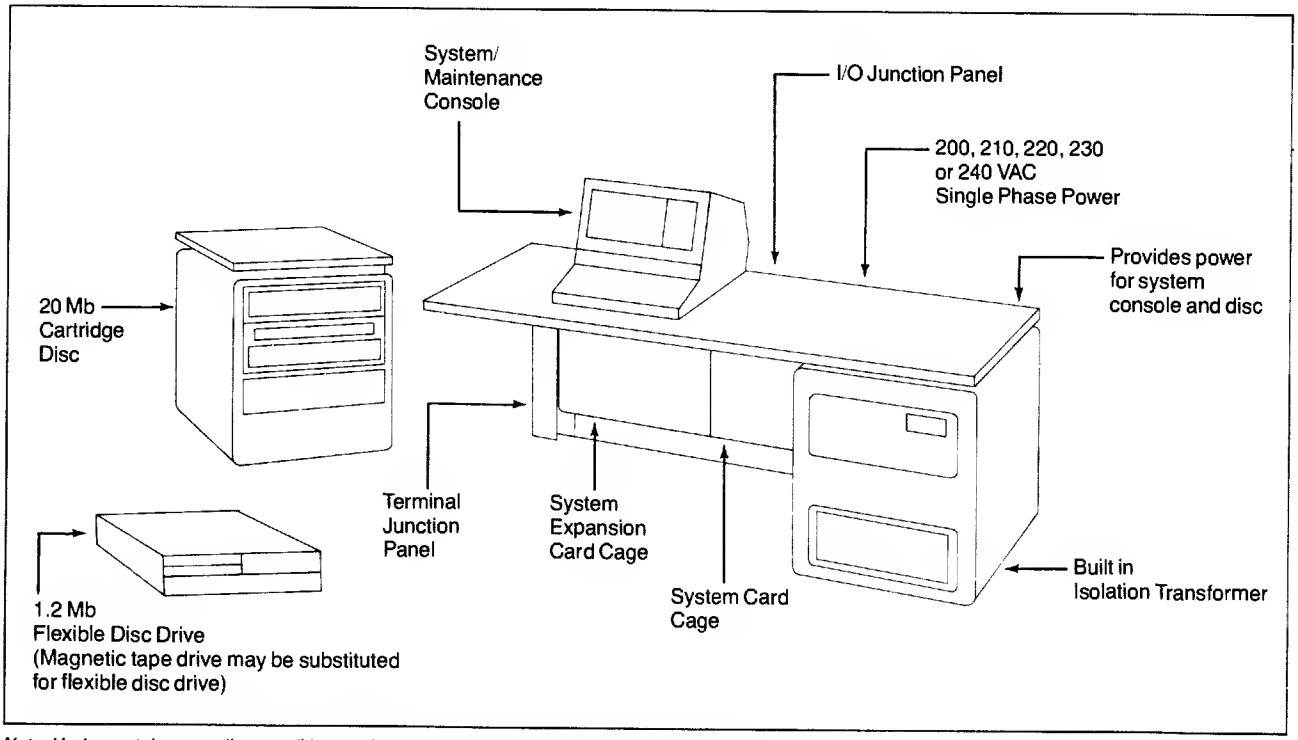
- System/maintenance console
- One Asynchronous Data Communications Controller (ADCC-Main) (provides four asynchronous terminal ports)
- System disc with controller (20 Mb, 50 Mb, or 120 Mb)
- Series 33 systems with *more* than 20 Mb disc storage require, for software distribution and back-up, either:
  1) a magnetic tape drive, or
  2) a flexible disc drive (9895A with opts. 010, 333) and dedicated serial disc (7906S, 7920S, 7925S).
- Series 33 systems with *only* 20 Mb disc storage require for software distribution and back-up, either:
  1) a magnetic tape drive, or
  2) a flexible disc drive (9895A with opts. 010, 333).

Software Supplied

Standard on each HP 3000 system is the Fundamental Operating Software which includes:

- Multiprogramming Executive (MPE) Operating system
- Text editor (EDIT/3000)
- File copying utility (FCOPY/3000)
- Sort and merge package (SORT-MERGE/3000)
- Data base management system (IMAGE/3000)
- Data base inquiry language (QUERY/3000)
- Keyed Sequential Access Method Software (KSAM/3000)
- Forms management software (HP V/3000)
- Facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)
- Complete user manual set

HP 3000 Series 33 Minimum Configuration



Note: Under certain power line conditions at the system site, an isolation transformer or other line conditioning equipment may be required for add-on disc and magnetic tape drives.

HP 3000 SERIES III SYSTEM PROCESSOR UNIT

Hardware Supplied

- Central processing unit (CPU)
- 209 firmware instructions
- System clock
- 16-port asynchronous Terminal Controller
- Modem support (for Bell 103, 202T or 212) for point-to-point terminals
- 16-Channel System I/O Multiplexer
- Table for system console
- High-speed selector channel
- Magnetic tape controller
- Built-in isolation transformer
- 256 Kb fault control memory
- 9 spare I/O slots and space for 2048 Kb memory
- One bay, card cages, and power supplies
- Room for 48 point-to-point terminals including system console

Software Supplied

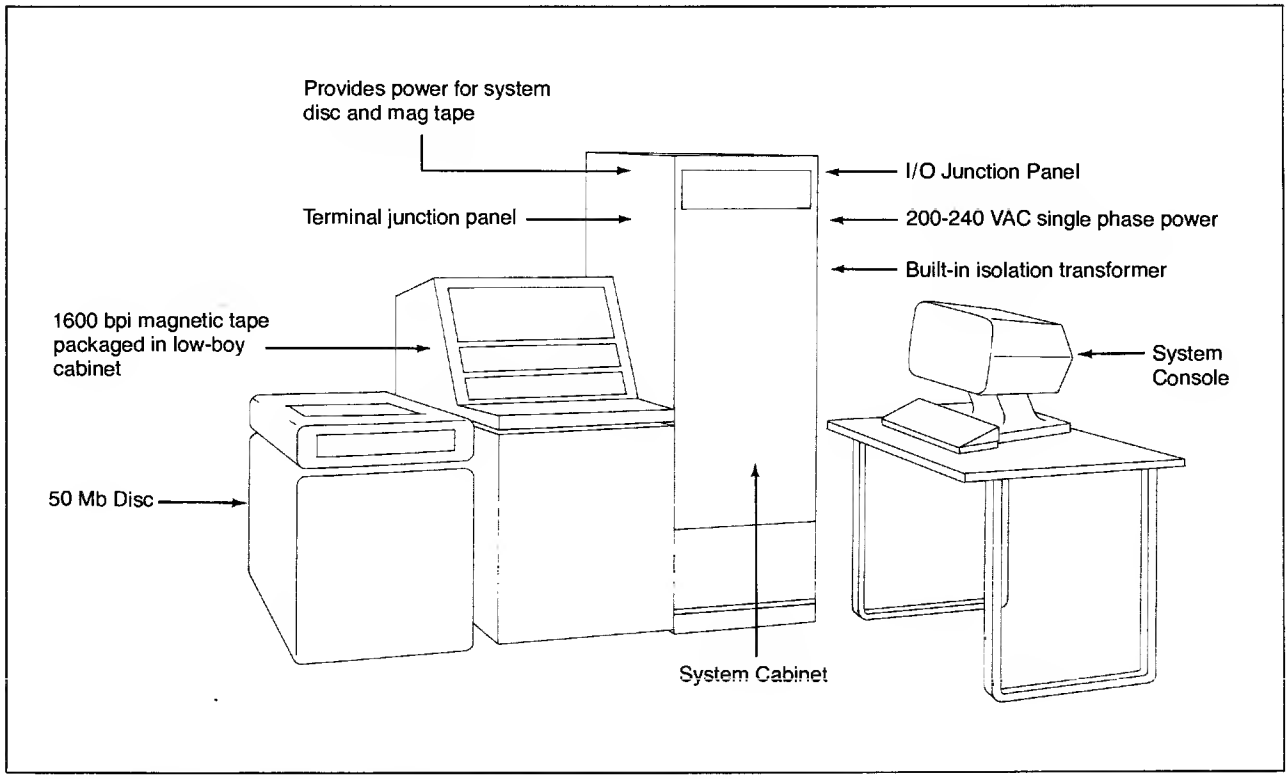
Standard on each HP 3000 system is the Fundamental Operating Software which includes:

- Multiprogramming Executive (MPE) Operating system
- Text editor (EDIT/3000)
- File copying utility (FCOPY/3000)
- Sort and merge package (SORT-MERGE/3000)
- Data base management system (IMAGE/3000)
- Data base inquiry language (QUERY/3000)
- Keyed Sequential Access Method Software (KSAM/3000)
- Forms management software (HP V/3000)
- Facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)
- Complete user manual set

Required Hardware Ordered Separately

- System console (Any HP 262x, 264x, or 2635B terminal)
- System console cable (order separately for 262x or 264x console)
- System disc with controller (50 Mb or 120 Mb)
- Magnetic tape drive (800 bpi or 1600 bpi)

HP 3000 Series III Minimum Configuration



Note: Under certain power line conditions at the system site, an isolation transformer or other line conditioning equipment may be required for add-on disc and magnetic tape drives.

HP 3000 SERIES 44 SYSTEM PROCESSOR UNIT

Hardware Supplied

- Central processing unit (CPU)
- 214 firmware instructions
- System clock
- Control and Maintenance Processor (CMP)
- General I/O Channel for magnetic tape drives
- General I/O Channel for line printers, disc drives, and Intelligent Network Processors (INPs)
- 1 Mb fault control memory with memory controller
- System desk mainframe, one card cage, and power supplies
- 8 spare I/O slots and space for 2 Mb memory
- Room for 32 point-to-point terminals including system console (can be expanded to provide room for 60 point-to-point terminals)
- Built-in isolation transformer

Software Supplied

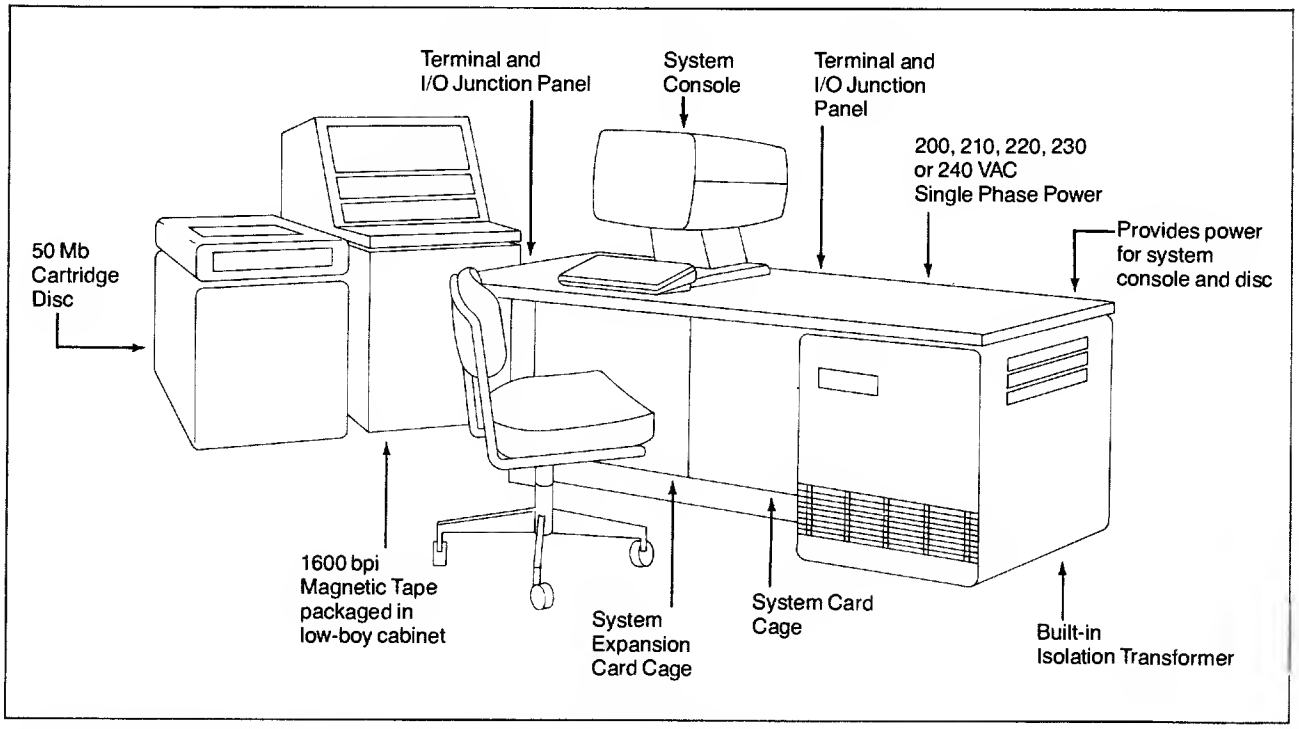
Standard on each HP 3000 system is the Fundamental Operating Software which includes:

- Multiprogramming Executive (MPE) Operating system
- Text editor (EDIT/3000)
- File copying utility (FCOPY/3000)
- Sort and merge package (SORT-MERGE/3000)
- Data base management system (IMAGE/3000)
- Data base inquiry language (QUERY/3000)
- Keyed Sequential Access Method Software (KSAM/3000)
- Forms management software (HP V/3000)
- Facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)
- Complete user manual set

Required Hardware Ordered Separately

- System console (Any HP 262x, 264x, or 2635B terminal)
- System console cable (order separately for 262x or 264x console)
- One Asynchronous Data Communications Controller (ADCC-Main) (provides four asynchronous terminal ports)
- System disc with controller (20 Mb, 50 Mb, or 120 Mb)
- 1600 bpi magnetic tape drive

HP 3000 Series 44 Minimum Configuration



Note: Under certain power line conditions at the system site, an isolation transformer or other line conditioning equipment may be required for add-on disc and magnetic tape drives.

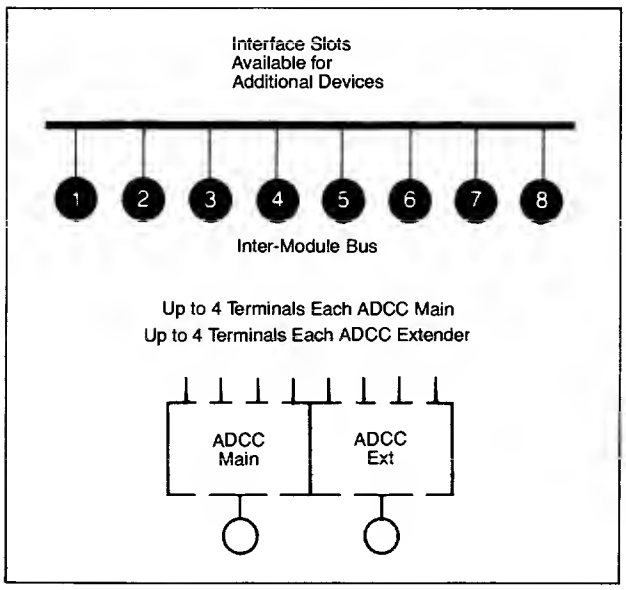
CONFIGURATION DIAGRAM OVERVIEW

Overview

To aid in configuring an HP 3000 Series 30, 33, III or 44 system, diagrams are included in the following pages. By following the steps indicated, it is simple to plan a new system or add to an existing one.

Selection Options

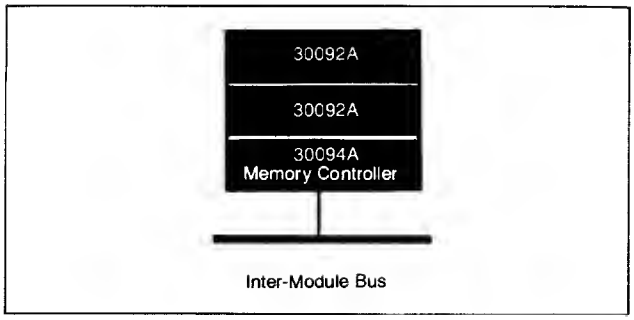
When choosing options denoted by circles, be certain to write the number of the interface slot which the option will occupy in the open circle beside the selected option, then cross out the numbered circle connected to the IOP bus or inter-Module Bus (iMB) to show that interface slot is no longer available. For example,



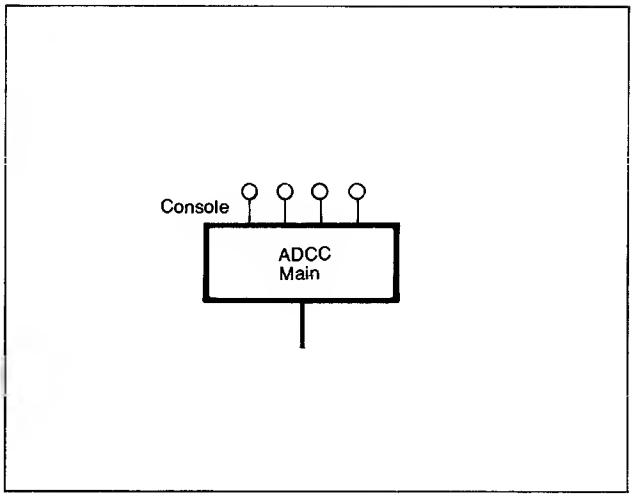
As a result, the options that have been chosen and the interface slots they occupy will be evident at a glance. DO NOT EXCEED THE TOTAL NUMBER OF AVAILABLE INTERFACE SLOTS ON THE INTER-MODULE BUS OR IOP BUS.

Devices identified with triangles, squares or hexagons will function only in the positions designated by matching geometric shapes. Hexagons denote non-IMB slots, which may be used for INPs and 2613/17/19A printer interfaces only.

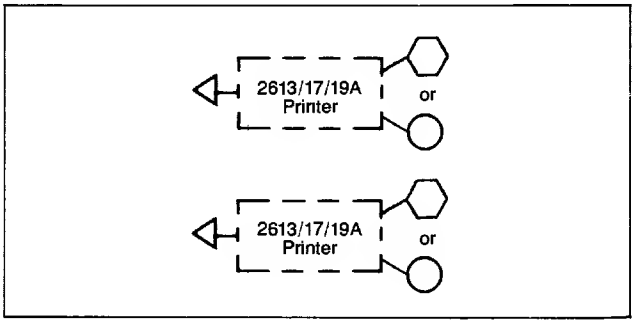
Equipment supplied with the System Processor Unit is in darkened boxes.



Equipment required, though ordered separately from System Processor Unit is in heavily outlined boxes.



Optional equipment is in white boxes outlined by dashed lines.



CONFIGURATION GUIDELINES

HP 3000 Series 30

Interfacing Optional Equipment. Eight I/O slots are available for interfacing additional devices to the Series 30. These I/O slots appear as numbered circles attached to the Series 30 Inter-Module Bus (IMB) on the following Series 30 Configuration Diagram. The eight I/O slots can be interfaced to any of the following devices: Asynchronous Data Communication Controllers (ADCCs), General I/O Channels (GICs), Intelligent Network Processors (INPs), or 2613A, 2617A, or 2619A (denoted 2613/17/19A) printer interfaces. One GIC is included in the base system; up to three GICs are supported.

Connecting Additional Terminals. Point-to-Point terminals are connected to the Series 30 by means of the Asynchronous Data Communications Controllers (ADCCs). Each ADCC provides ports for four point-to-point terminals. There are two types of ADCCs: ADCC-Mains and ADCC-Extenders. ADCC-Mains and ADCC-Extenders must be configured and ordered in alternating fashion: ADCC-Main, ADCC-Extender, ADCC-Main, etc. The first ADCC-Main is required and must be ordered separately. This permits the connection of the System/Maintenance Console and up to three terminals (the 2649E System/Maintenance Console is required and must be ordered separately). The Series 30 supports a maximum of eight ADCCs altogether (for a maximum of 32 point-to-point asynchronous terminals). 2601A daisy-wheel printers and 2631B dot matrix character printers can also be connected to ADCC terminal ports (see Printers).

To attach multipoint terminals, the Series 30 requires one copy of Multipoint Terminal Software/3000 (MTS/3000), and, for each multidrop communication line, one Intelligent Network Processor (INP). The number of terminals that may be attached to each multidrop communication line is normally determined by response time considerations, but may be limited by the specific cabling option chosen. Up to 47 multipoint terminals total are supported per system, on one or more multidrop lines.

Up to 48 terminals total (including point-to-point, multipoint, system console, and DS/3000 virtual terminals) can be configured per system.

Disc Drives. The first disc drive attached to the Series 30 is called a "master" disc, which means that it contains a controller. One master disc is required with the Series 30 and is ordered separately from the System Processor Unit. 20 Mb, 50 Mb, and 120 Mb master disc drives are available. Additional disc drives used on the Series 30 are called "slave" disc drives, because they are attached to, and share the controller of, the master disc drive. Up to seven slave disc drives may be attached to the master disc drive; 20 Mb, 50 Mb, and 120 Mb slave disc drives are available. The maximum Series 30 disc memory capacity is achieved if all disc drives used are 120 Mb. resulting in a total of 960 Mb storage. For the Series 30 the master disc can be located 2 meters from the system; a 2 meter cable is provided with the master disc.

Magnetic Tape Drives. A 1600 bits per inch (bpi) magnetic tape drive is required for system backup and distribution of software updates, for Series 30 systems with more than 20 Mb disc storage.* (If the Series 30 has only 20 Mb disc storage, a 1.2 Mb flexible disc drive may be used instead of the magnetic tape drive. The flexible disc drive may also be used in addition to one or more magnetic tape drives.) The first magnetic tape drive attached to the Series 30 is called the "master", because it contains a built-in controller. The master tape drive must be attached to a dedicated General I/O Channel (GIC), which is ordered separately. Up to three additional slave magnetic tape drives may be attached to the master. All magnetic tape drives are enclosed in separate low-boy cabinets with sloping front access to the drives. The master magnetic tape drive can be located 6 meters from the system. A 6 meter cable is provided with the tape drive.

Printers. The Series 30 supports up to two system line printers. 2608A (400 lpm), 2613A (300 lpm), 2617A (600 lpm), or 2619A (1000 lpm) printers are supported. The 2608A is attached to a GIC in the System Processor Unit; the 2613/17/19A printers attach to a GIC and use an interface which occupies one I/O slot in the Series 30. This interface is ordered as option 301 to the 2613/17/19A printer. Each 2608A printer comes with a two-meter cable.† Each HP 2613/17/19A printer with option 301 comes with a 15 meter (50 ft) cable.

In addition to system line printers which are attached to GICs, the Series 30 can support local or remote spoolable 2631B character printers through one or more ADCCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ADCC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series 30 in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series 30 can support 2601A daisy-wheel printers as terminals (non-spooled only) via ADCCs. The 2601A can be directly attached to an ADCC port via hardwired cable.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series 30 terminals, under the control of user-supplied application programs.

The Series 30 also supports the 2680A Intelligent Page Printer. Specify 2680A with option 301 for Series 30 cable. The 2680A must be attached to a dedicated GIC, which is ordered separately.

**If the Series 30 has a dedicated serial disc (7906S, 7920S, or 7925S) for backup, and a flexible disc drive for distribution of software updates, the magnetic tape drive is not required.*

†For 32430B Series 30 systems with built-in flexible disc drive, one 2608A two-meter cable may be increased to four meters by an optional extender cable. This is not allowed for 32430B/C Series 30 systems without built-in flexible disc drive.

CONFIGURATION GUIDELINES

Data Communications. The Series 30 can support up to three Intelligent Network Processors (INPs). Each INP provides one communication line that may be used by DS/3000, MTS/3000, RJE/3000, MRJE/3000, or IML/3000 software. The same INP can be used (non-concurrently) by any of these software products. Each INP board requires one I/O slot and a connection to a GIC.

Flexible Disc Drive. One 1.2 Mb flexible disc drive can be used on the Series 30. Order 9895A with option 010 to specify single master drive, and option 333 to specify Series 30 cable. The flexible disc drive attaches to a GIC in the Series 30; a 2M (6.5 feet) cable is provided.

Memory Expansion. 256 Kb of fault control memory is supplied with the System Processor Unit. System memory sizes of 512 Kb, 768 Kb, and 1024 Kb are also supported. 30078A 128 Kb Memory Array boards should be ordered in pairs to achieve these memory sizes.

Previous Series 30 systems. Series 30 systems with built-in flexible disc drive (model 32430B, 32431B) have additional configuration guidelines.

For these Series 30 systems with built-in flexible disc drive and either:
1) two GICs and three INPs, or
2) three GICs and one or two INPs,
the maximum number of I/O interface boards (GICs, ADCCs, INPs, and 2613/17/19A printer interfaces) is nine (i.e. one I/O slot must be left empty after all I/O interface boards are installed).

For Series 30 systems with built-in flexible disc drive and three GICs and three INPs, the maximum number of I/O interface boards is eight (i.e. two I/O slots must be left empty after all I/O interface boards are installed).

HP 3000 Series 33

Interfacing Optional Equipment. The Series 33 System Processing Unit contains seven I/O slots for interfacing any of the following devices: Asynchronous Data Communications Controllers (ADCCs), General I/O Channels (GICs), Intelligent Network Processors (INPs), or 2613/17/19A Line Printer Interfaces. Two GICs are included in the base system; up to four GICs are supported.

If more than seven additional I/O slots are required, the Series 33 Expansion Kit (30416A) may be ordered to provide an additional thirteen I/O slots. Of these thirteen slots, six are limited to supporting only INPs and 2613/17/19A Line Printer Interfaces.

Connecting Additional Terminals. The first Asynchronous Data Communictions Controller-Main (ADCC-Main) is required and must be ordered separately. This permits the connection of the System/Maintenance Console and up to three terminals (the 2649E System/Maintenance Console is required and is ordered separately). Additional terminal capacity may be added in groups of four by adding ADCC-Mains and Extenders. Always add an ADCC-Extender to an existing ADCC-Main before adding another ADCC-Main. The Series 33 supports a maximum of 32 point-to-point terminals, including console. 2601A daisy-wheel printers and 2631B dot matrix character printers can also be connected to ADCC terminal ports (see Printers).

To attach multipoint terminals, the Series 30 requires one copy of Multipoint Terminal Software/3000 (MTS/3000) and, for each multidrop communication line, one Intelligent Network Processor (INP). The number of terminals that may be attached to each multidrop communication line is normally determined by response time considerations, but may be limited by the specific cabling option chosen. Up to 47 multipoint terminals total are supported per system, on one or more multidrop lines.

Up to 48 terminals total (including point-to-point, multipoint, system console, and DS/3000 virtual terminals) can be configured per system.

Disc Drives. One system disc is required and is ordered separateiy from the System Processor Unit. 20 Mb, 50 Mb, or 120 Mb master disc drives (including controller) are available. The controller can handle a total of eight drives, resulting in a 960 Mb maximum capacity for the system. The system disc can be located up to 6 meters from the system.

Magnetic Tape Drives. A 1600 bits per inch (bpi) magnetic tape drive is required for system backup and distribution of software updates, for Series 33 systems with more than 20 Mb disc storage.* (If the Series 33 has only 20 Mb disc storage, a 1.2 Mb flexible disc drive may be used instead of the magnetic tape drive. The flexible disc drive may also be used in addition to one or more magnetic tape drives.) The first magnetic tape drive attached to the Series 33 is called the "master," because it contains a built-in controller. The master tape drive must be attached to a dedicated General I/O Channel (GIC). Up to three additional slave magnetic tape drives may be attached to the master. All magnetic tape drives are enclosed in separate low-boy cabinets with sloping front access to the drives. The master magnetic tape drive can be located 6 meters from the system. A 6 meter cable is provided with the tape drive.

Printers. The Series 33 supports up to two system line printers. These two printers may consist of 2608A printers and 2613/17/19A printers. The 2608A attaches to a GIC in the system processing unit; the 2613/17/19A printer not only attaches to a GIC but also uses an interface which occupies one I/O slot in the Series 33. This interface is ordered as option 302 to the 2613/17/19A printer. Each

**If the Series 33 has a dedicated serial disc (7906S, 7920S, or 7925S) for backup, and a flexible disc drive for distribution of software updates, the magnetic tape drive is not required.*

CONFIGURATION GUIDELINES

2608A printer comes with a two-meter HP-IB cable (order 2608A option 333). One 2608A may be increased to four meters with an optional extender cable (31389B). Each 2613/17/19A printer with option 302 comes with a 15 meter (50 feet) cable.

In addition to system line printers which are attached to GICs, the Series 33 can support local or remote spoolable 2631B character printers through one or more ADCCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ADCC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series 33 in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series 33 can support 2601A daisy-wheel printers as terminals (non-spooled only) via ADCCs. The 2601A can be directly attached to an ADCC port via hardwired cable.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series 33 terminals, under the control of user-supplied application programs.

The Series 33 also supports the 2680A Intelligent Page Printer. Specify 2680A with option 302 for Series 33 cable. The 2680A must be attched to a dedicated GIC, which is ordered separately.

Data Communications. Up to seven Intelligent Network Processor (INP) boards are configurable, three in the first card cage and four in the second. Each INP provides one communication line that may be used by DS/3000, MTS/3000, MRJE/3000, RJE/3000, or IML/3000 software. The same INP can be used (non-concurrently) by any of these software products. Each INP board requires one I/O slot and a connection to a GIC.

Flexible Disc Drive. One 1.2 Mb flexible disc drive can be used on the Series 33. Order 9895A with option 010 to specify single master drive, and option 333 to specify Series 33 cable. The flexible disc drive attaches to a GIC in the Series 33; a 2M (6.5 feet) cable is provided with the drive.

Memory Expansion. 256 Kb of fault control memory is supplied with the System Processor Unit. System memory sizes of 512 Kb, 768 Kb, and 1024 Kb are also available. 30078A 128 Kb Memory Array boards should be ordered in pairs to achieve these memory sizes.

I/O Expansion. The system processor unit contains 7 I/O slots for additional devices. To obtain seven more IMB slots, as well as six additional non-IMB slots (for INPs and 2613/17/19A Printer Interfaces only), order the I/O Expansion Kit (30416A).

Previous Series 33 systems. Series 33 systems with built-in flexible disc drive (model 32412B, 32413B) have additional configuration guidelines.

For these Series 33 systems with built-in flexible disc drive and either:
1) two GICs and three INPs, or
2) three GICs and one or two INPs, or
3) four GICs and no INPs,

it is required that either:
1) the total number of I/O interface boards (GICs, ADCCs, INPs, and 2613/17/19A printers) is nine (i.e. one I/O slot must be left empty after all I/O interface boards are installed), or
2) the Series 33 Expansion Kit (30416A) must be used.

For Series 33 systems with built-in flexible disc drive and either:
1) three GICs and three or more INPs, or
2) four GICs and one or more INPs,

the Series 33 Expansion Kit (30416A) is required.

HP 3000 Series III

Interfacing Optional Equipment. Spare interface slots (numbered "circles" connected to the IOP Bus) are available for additional products, and can be occupied by optional equipment identified with an attached "circle."

Connecting Additional Terminals. One Asynchronous Terminal Controller (ATC) is supplied. It permits the connection of up to 16 point-to-point terminals, including the system console.

Additional ATCs can be added, each interfacing up to 16 point-to-point terminals. Up to 48 terminals can be interfaced in the System Processor Unit bay, unless a 30360A Hardwired Serial Interface (HSI) is configured—then up to 32 terminals can be interfaced to the System Processor Unit. The addition of an extension I/O Cabinet (30235A) provides expansion for a total of 64 point-to-point terminals.

Alternatively, terminals may be added to the Series III using Multipoint Terminal Software (MTS/3000) and one or more Intelligent Network Processors (INP) or Synchronous Single Line Controllers (SSLC's). The number of terminals per line is normally determined by response time considerations but may be limited by the specific cabling option chosen. Up to 95 multipoint terminals total are supported per system, on one or more multi-drop lines.

Up to 96 terminals total (including point-to-point, multipoint, system console, and DS/3000 virtual terminals) are supported per system.

Disc Drive. One 50 Mb or 120 Mb disc subsystem with controller is required, connected directly to the Central Data Bus through a disc interface to the selector channel. The controller and Series III system can handle a total of 8 drives or 960 Mb maximum capacity.

CONFIGURATION GUIDELINES

Magnetic Tape Units. One 1600 bpi or 800 bpi magnetic tape drive is required and is connected through a controller to the system. The supplied controller can also handle up to three extra drives of mixed densities (up to a total of four); when using mixed density drives, an 800 bpi master drive is recommended for configuration flexibility.

Additionally, a second controller may be ordered which can support up to four additional drives (5th through 8th on system) of mixed densities. When using mixed density drives, an 800 bpi master drive is recommended. Each additional tape drive ordered will be supplied in a free-standing cabinet. See the 7970 data sheet for further configuration details on extra drives.

Printers. A maximum of four 2608A, 2613A, 2617A, and/or 2619A system line printers, in any combination, may be connected to any HP 3000 Series III. Each printer requires its own 30209A controller. Specify option 300 for each printer.

In addition to system line printers, the Series III can support local or remote spoolable 2631B character printers through one or more ATCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ATC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series III in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series III can support 2601A daisy-wheel printers as terminals (non-spooled only) via ATCs. The 2601A can be directly attached to an ATC port via hardwired cable.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series III terminals, under the control of user-supplied application programs.

Data Communications. The HP 3000 Series III supports up to two Hard-wired Serial Interfaces (HSIs), and seven Intelligent Network Processors (INPs) and/or Synchronous Single Line Controllers (SSLCs) in any combination. See Terminal and System Communications sections for data communications hardware and software configuration guidelines.

Memory Expansion. The 30418A memory expansion kit permits increasing memory capacity of installed HP 3000 Series III systems from 1024 Kb to a maximum of 2048 Kb. The kit includes two 256 Kb memory boards with built-in fault control, memory controller, cables, and mounting hardware. Further expansion to the full 2048 Kb is accomplished by adding two more optional 30008B memory array boards.

HP 3000 Series 44

Interfacing Optional Equipment. The Series 44 System Processor Unit (SPU) contains eight I/O slots for interfacing any of the following devices: Asynchronous Data Communications Controllers (ADCCs), General I/O Channels (GICs), Intelligent Network Processors (INPs), or 2613/17/19A printer interfaces. Two GICs are included in the base system; a maximum of five GICs total are supported.

If more than eight I/O slots are required, the Series 44 Expansion Kit (30087A) may be ordered to provide an additional fifteen I/O slots. Of these fifteen slots, eight support only INPs and 2613/17/19A printer interfaces.

Connecting Additional Terminals. Point-to-point terminals are connected to the Series 44 by means of ADCC-Mains and ADCC-Extenders. ADCC-Mains and ADCC-Extenders must be ordered in alternating fashion. Each ADCC (either Main or Extender) supports up to four terminals. The first ADCC-Main is required with the Series 44 System Processor Unit and must be ordered separately. This permits the attachment of the system console (ordered separately from the SPU) and up to three terminals. Any 262x, 264x, or 2635B terminal may be used as the Series 44 System console. The Series 44 supports up to 15 ADCC's altogether (for a maximum of 60 point-to-point terminals). 2601A daisy-wheel printers and 2631B dot matrix character printers can also be connected to ADCC terminal ports (see Printers).

To attach multipoint terminals, the Series 44 requires one copy of Multipoint Terminal Software/3000 (MTS/3000) and, for each multidrop communication line, one Intelligent Network Processor (INP). The number of terminals per multidrop line is normally determined by response time considerations, but may be limited by the specific cabling option chosen. Up to 95 multipoint terminals are supported per system, on one or more multipoint lines.

Up to 96 Series 44 terminals (point-to-point, multipoint, system console, and DS/3000 virtual terminals) can be configured per system.

Disc Drives. One 20, 50, or 120 Mb master disc drive is required and must be ordered separately. Up to seven additional slave drives can be attached to the master disc drive; 20 Mb, 50 Mb, and 120 Mb slave disc drives are available. In addition, a second master disc drive can be attached to the Series 44, and this second master disc drive can also support up to seven additional slave drives. The maximum Series 44 disc capacity is achieved using sixteen 120 Mb drives, resulting in a total of 1920 Mb storage. For the Series 44 the first master disc can be located up to 6 meters from the system. A 4 meter cable is provided with the Series 44, and a two meter cable is

provided with the master disc (for a total of six meters). If a second master disc drive is added, it is attached directly to the cable between the Series 44 and the first master drive, so that no additional cable length beyond 6 meters is added.

Magnetic Tape Drives. A master 1600 bpi magnetic tape drive with built-in controller is required for system backup and distribution of software updates for all Series 44 systems, and must be ordered separately. Up to three additional slave magnetic tape drives may be attached to the master. Further, a second master tape drive can be configured to the Series 44, which can also support up to three slave tape drives. Consequently, a maximum of eight master and slave tape drives total can be configured to the Series 44. The second master magnetic tape drive requires a dedicated GIC which must be ordered separately. All magnetic tape drives are enclosed in separate low-boy cabinets with sloping front access to the drives. Master magnetic tape drives can be located 6 meters from the system. A 6 meter cable is provided with each master tape drive.

Printers. The Series 44 supports up to four system line printers. These four printers may consist of 2613/17/19A printers and/or 2608A printers. Maximum of two 2608A printers per system. The 2608A is attached to a GIC in the System Processing Unit; each 2613/17/19A printer attaches to a GIC and uses an interface which occupies one I/O slot in the Series 44. This interface is ordered as option 344 to the 2613/17/19A printer. Each 2608A printer comes with a two-meter cable (specify 2608A option 344) one of which may be increased to four meters by an optional extender cable (31389B.) Each 2613/17/19A printer with option 344 comes with a 15 meter (50 feet) cable.

In addition to system line printers which are attached to GICs, the Series 44 can support local or remote spoolable 2631B character printers through one or more ADCCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ADCC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series 44 in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series 44 can support 2601A daisy-wheel printers as terminals (non-spooled only) via ADCCs. The 2601A can be directly attached to an ADCC port via hardwired cable.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series 44 terminals, under the control of user-supplied application programs.

The Series 44 also supports the 2680A Intelligent Page Printer. Specify 2680A with option 344 for Series 44 cable. The 2680A must be attached to a dedicated GIC, which is ordered separately.

Data Communications. For a Series 44, up to seven Intelligent Network Processors (INPs) may be configured. Each INP provides for one communication line, that may be used by DS/3000, MTS/3000, RJE/3000, MRJE/3000, or IML/3000 software. The same INP can be used (non-concurrently) by any of these software products. Each INP board requires one I/O slot and a connection to a GIC. The 30087A Series 44 Expansion Kit is required for more than three INPs.

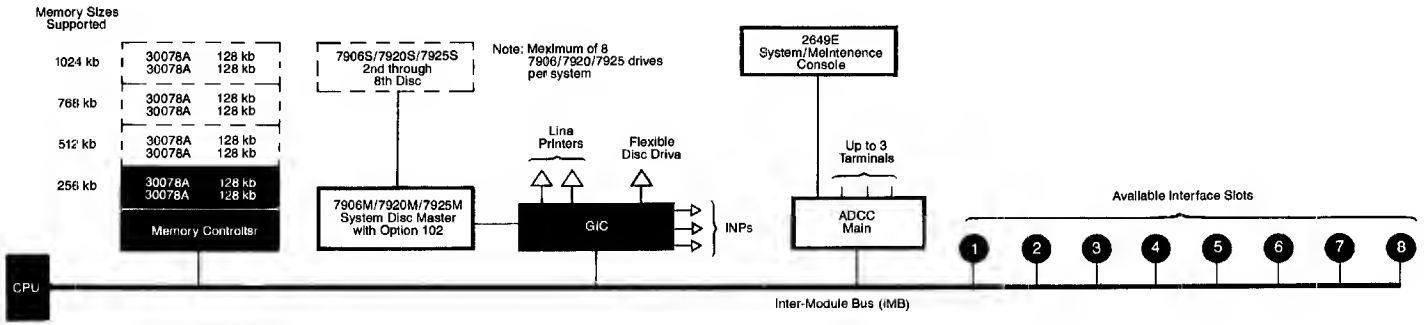
Flexible Disc Drive. One 1.2 Mb flexible disc drive can be used on the Series 44. Order 9895A with option 010 to specify single master drive and option 333 to specify Series 44 cable. The flexible disc drive attaches to a GIC in the Series 44; a 2M (6.5 ft) cable is provided.

Memory Expansion. One Megabyte (Mb) of fault control Series 44 memory is supplied with the System Processor Unit. System memory sizes of 1 Mb, 1.5 Mb, 2 Mb, 2.5 Mb, 3 Mb, 3.5 Mb, and 4 Mb are supported. The 30092A 512 Kb Series 44 Memory Module must be ordered for more than 1 Mb memory. The 30087A Series 44 Expansion Kit and the 30094A Series 44 memory controller are required and must be ordered for expansion beyond 2 Mb memory.

Series 44 I/O Expansion. To obtain fifteen additional I/O slots, order Series 44 Expansion Kit (30087A.) The Series 44 Expansion Kit is required if any of the following apply:

1) more than three INPs, or
2) more than 2 Megabytes memory, or
3) more than the eight available I/O slots are required

Maximum Configuration Diagram For Series 30 (Models 32430C, 32431C)

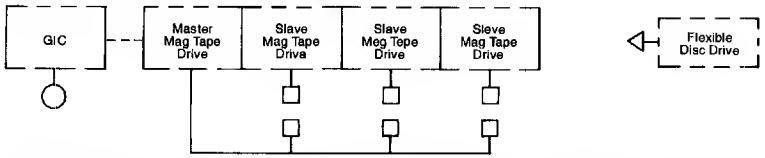


	SOFTWARE
✓	Fundamental Operating Software
	32233A COBOL II/3000
	32111A BASIC/3000
	32102B FORTRAN/3000
	32104A RPG/3000
	32100A SPL/3000
	32205B Scientific Library
	32190A DS/3000
	30130E RJE/3000
	32192A MRJE/3000
	32229A IML/3000
	32193A MTS/3000
	32250A DSG/3000
	36578A TDP/3000
	36580A IFS/3000
	36581A IDS/3000
	32199A Flexible Disccopy/3000
	32902A CIS/3000
	32900B SIS/3000
	32260A Materials Management/3000

KEY

- INP = 30020A
- GIC = 30079A with opt. 030 (General I/O Channel)
- ADCC Main = 30018A with opt 030
- ADCC Ext. = 30019A with opt. 030
- 1.2 Mb Flexible Disc Drive = 9895A with opts. 010 & 333 (1.2 Mb drive)
- Master Mag Tape Drive = 7970E with opt. 428 (1600 bpi)
- Slave Mag Tape Drive = 7970E with opt. 421 (1600 bpi)
- 2613/17/19A Printer = line printer with opt. 301
- 2608A Printer = 2608A dot matrix line printer with opt. 333
- 2680A = Intelligent Page Printer with opt. 301

Magnetic Tape Drive and/or Flexible Disc Drive



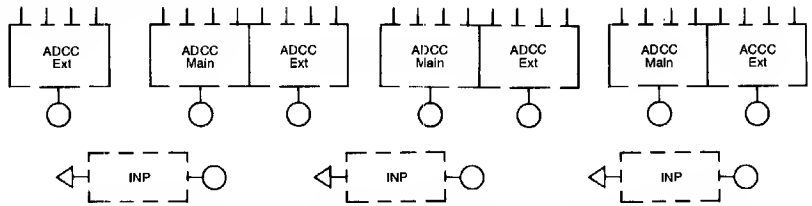
1. For system backup and software distribution, Series 30 systems with more than 20 Mb of disc storage require either:
   a) a master magnetic tape drive (7970E with opt. 426), or
   b) a serial disc (7908S, 7920S, or 7925S) dedicated to backup, and a flexible disc drive (9895A with opts. 010 and 333) for software updates.

If a master magnetic tape drive is ordered, up to three slave magnetic tape drives (7970E with opt. 421) may be attached to the master drive. One GIC (30079A with opt. 030), dedicated to the tape drives, is required and must be ordered separately.

Series 30 systems with no more than 20 Mb disc storage require only a master magnetic tape drive, or a flexible disc drive.

Maximum of one flexible disc drive (9895A with opts. 010 and 333) per system.

Data Communications

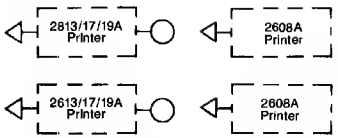


2. Terminals. Use ADCCs to connect point-to-point terminals, and INPs to connect multipoint terminals. One ADCC-Main (30018A with opt. 030) is required and must be ordered separately. This ADCC-Main supports the system console plus three additional terminals. Up to 48 terminals total (point-to-point, multipoint, system console, and DS/3000 virtual terminals) are allowed.
3. Point-to-point terminals. Each ADCC-Main or ADCC-Ext provides four terminal ports.

Add ADCC-Mains and ADCC-Exts in alternating fashion: ADCC-Main, ADCC-Ext, ADCC-Main, etc. Maximum ADCC transmission rate is 9600 bps for local (hardwired) use, and 1200 bps for remote (modem) use. Up to 32 point-to-point terminals (including console) are supported.

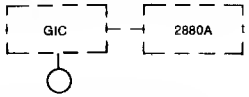
4. Multipoint terminals. MTS/3000 software required. Use one INP per multidrop line. Number of Multipoint terminals per INP line is a function of response time and application considerations. Maximum Multipoint transmission rate is 9600 bps, local or remote. Up to 47 Multipoint terminals are supported.
5. Data Communications. Use INPs for DS, MRJE, RJE, IML, or MTS (Multipoint) lines. Maximum of three INPs.
6. A maximum of four RS-232-C character printers (2631B with opt. 331) are allowed per system, when attached to ADCCs. Each 2631B character printer uses one ADCC terminal port. 2601A daisy-wheel printers can also attach to ADCC ports as terminals (2631B and 2601A printers not shown).

Printers



7. Maximum of two 2808A or 2613/17/19A printers per system.

Intelligent Page Printer



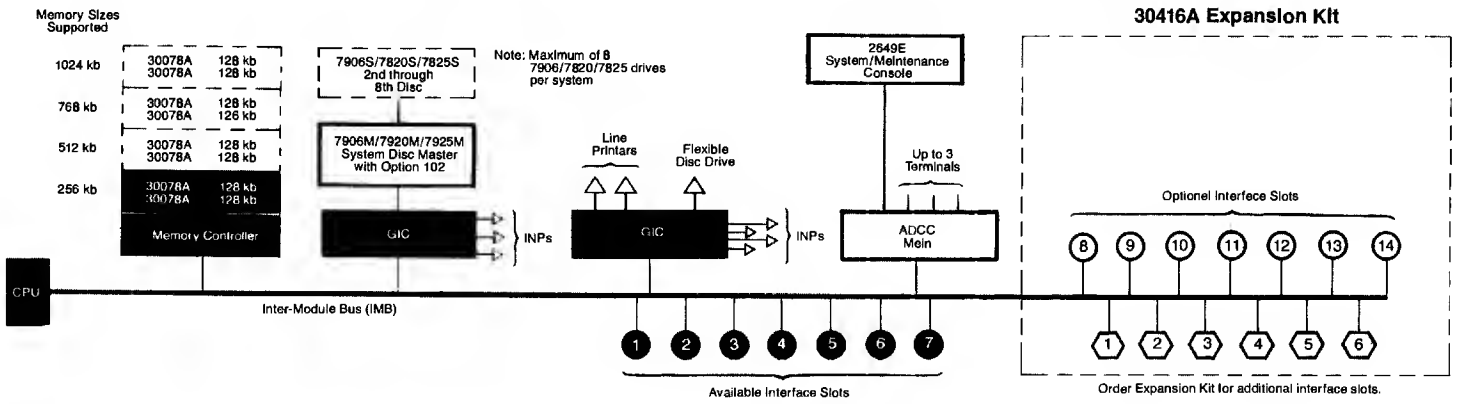
8. The HP Intelligent Page Printer (2680A with option 301) requires a dedicated GIC (30079A with option 044) which is ordered seperately.

Previous Series 30 models

9. Series 30 models with built-in flexible disc drive (models 32430B, 32431B) have additional requirements. See Series 30 Configuration Guidelines.

Supplied — Required. Must be ordered separately — Optional

Maximum Configuration Diagram For Series 33 (Models 32412C, 32413C)

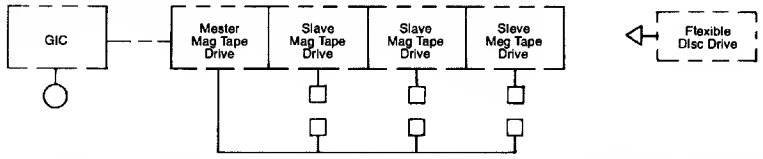


	SOFTWARE
✓	Fundamental Operating Software
	32233A COBOL II/3000
	32111A BASIC/3000
	32102B FORTRAN/3000
	32104A RPG/3000
	32100A SPL/3000
	32205B Scientific Library
	32190A DS/3000
	30130E RJE/3000
	32192A MRJE/3000
	32229A IML/3000
	32193A MTS/3000
	32250A DSG/3000
	36578A TDP/3000
	36560A IFS/3000
	36581A IDS/3000
	32199A Flexible Disccopy/3000
	32902A CIS/3000
	32900B SIS/3000
	32260A Materials Management/3000

KEY

- INP = 30020A
- GIC = 30079A (no options required) (Generel I/O Channel)
- ADCC Main = 30018A (no options required)
- ADCC Ext. = 30018A (no options required)
- 1 2 Mb Flexible Disc Drive = 9895A with opts. 010, 333
- Mester Mag Tape Drive = 7970E with opt. 426 (1600 bpi)
- Slava Mag Tape Drive = 7970E with opt. 421 (1800 bpi)
- 2613/17/19A Printer = 2613A, 2617A, or 2619A line printer with opt. 302
- 2606A Printer = 2608A dot matrix line printer with opt. 333
- 2680A = 2680A Intelligent Page Printer with option 302

Magnetic Tape Drive and/or Flexible Disc Drive



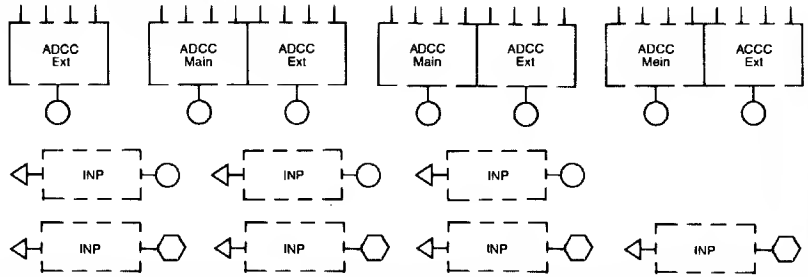
1. For system backup and software distribution, Series 33 systems with more than 20 Mb of disc storage require either:
   a) a master magnetic tape drive (7970E with opt 426), or
   b) a serial disc (7906S, 7920S, or 7925S) dedicated to backup and a flexible disc drive (9895A with opts. 010 and 333) for software updates.

If a master magnetic tape drive is ordered, up to three slave magnetic tape drives (7970E with opt. 421) may be attached to the master drive. One GIC (30078A), dedicated to the tape drives, is required and must be ordered separately.

Series 33 systems with no more than 20 Mb disc storage require only a master magnetic tape drive, or a flexible disc drive.

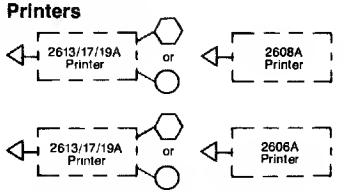
Maximum of one flexible disc drive (9895A with opts. 010 and 333) per system.

Data Communications



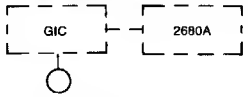
2. Terminals. Use ADCCs to connect point-to-point terminals, and INPs to connect multipoint terminals. One ADCC-Main (30018A) is required and must be ordered separately. (This ADCC-Main supports the system console plus three additional terminals.) Up to 48 terminals total (point-to-point, multipoint, system console, and DS/3000 virtual terminals) can be configured.
3. Point-to-point terminals. Each ADCC-Main or ADCC-Ext provides four terminal ports. Add ADCC-Mains and ADCC-Exts in alternating fashion: ADCC-Main, ADCC-Ext, ADCC-Main, etc. Maximum ADCC transmission rate is 9600 bps for local (hardwired) use, and 1200 bps for remote (modem) use. Up to 32 point-to-point terminals (including console) can be attached. See Note 9 for Expansion Kit requirements.
4. Multipoint Terminals. MTS/3000 software required. Use one INP per multidrop line. Number of multipoint terminals per INP line is a function of response time and application considerations. Maximum Multipoint transmission rate is 9600 bps, local or remote. Up to 47 Multipoint terminals are supported. See Note 9 for Expansion Kit requirements.
5. Data Communications. Use INPs for DS, MRJE, RJE, IML, or MTS (Multipoint) lines. Maximum of seven INPs total See Note 9 for additional hardware requirements.
6. A maximum of four RS-232-C character printers (2631B with option 331) are allowed per system, when attached to ADCCs. Each 2631B printer uses one ADCC terminal port. 2601A daisy-wheel printers can also attach to ADCC ports as terminals (2631B and 2601A printers not shown).

Printers



7. Maximum of two 2606A or 2613/17/19A printers per system.

Intelligent Page Printer



8. The HP Intelligent Page Printer (2660A with option 302) requires a dedicated GIC (30079A) which is ordered separately. See Note 9 for Expansion Kit requirements.

Expansion Kit

(See Diagram at top of Page)

9. The Series 33 Expansion Kit (30416A) is required and must be ordered separately if any of the following apply:
   a) more then three INPs
   b) four GICs and two or more INPs
   c) more than the seven available I/O slots are required

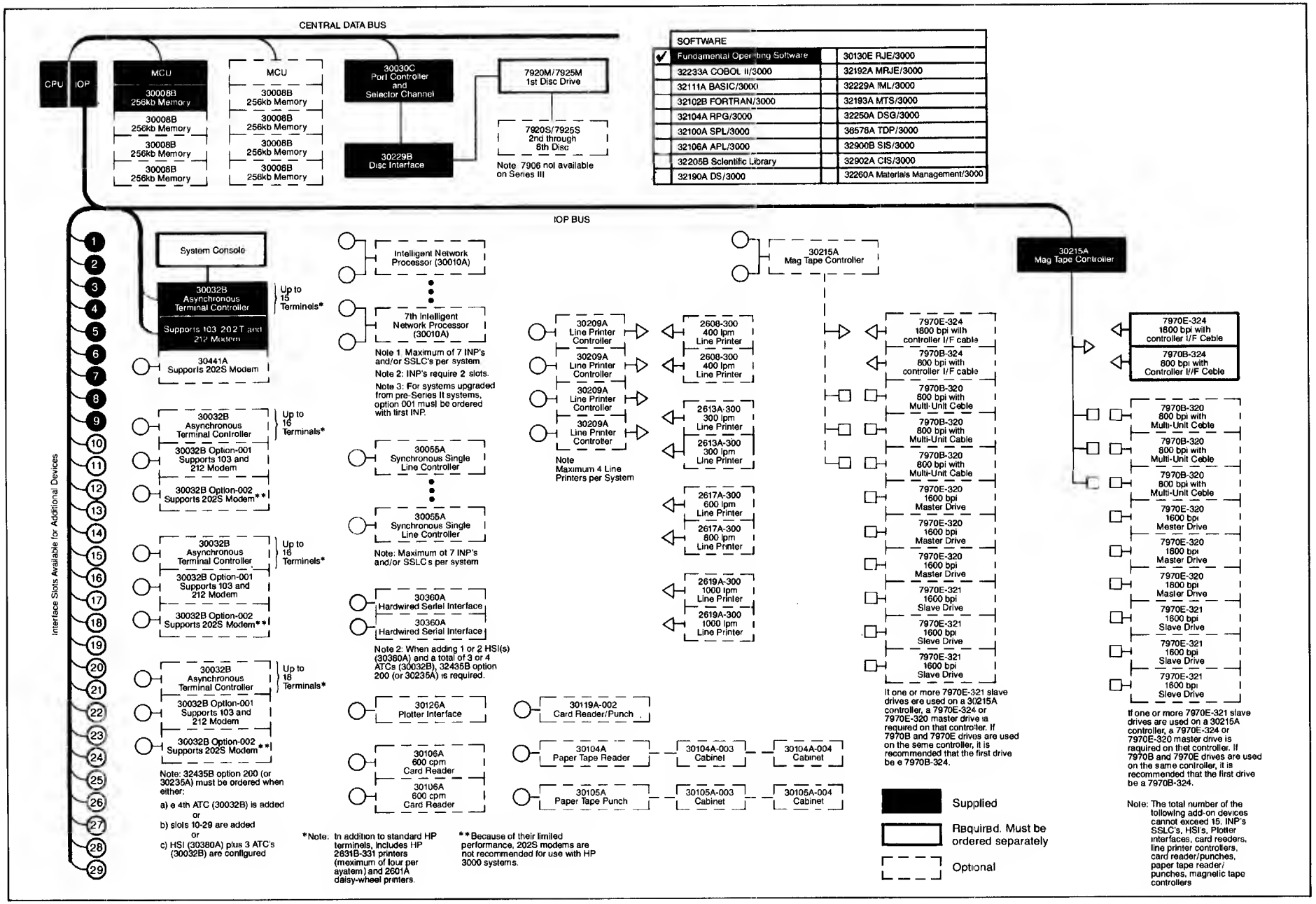
Previous Series 33 models

10. Series 33 systems with built-in flexible disc drive (models 32412B, 32413B) have special requirements. See Series 33 Configuration Guidelines.

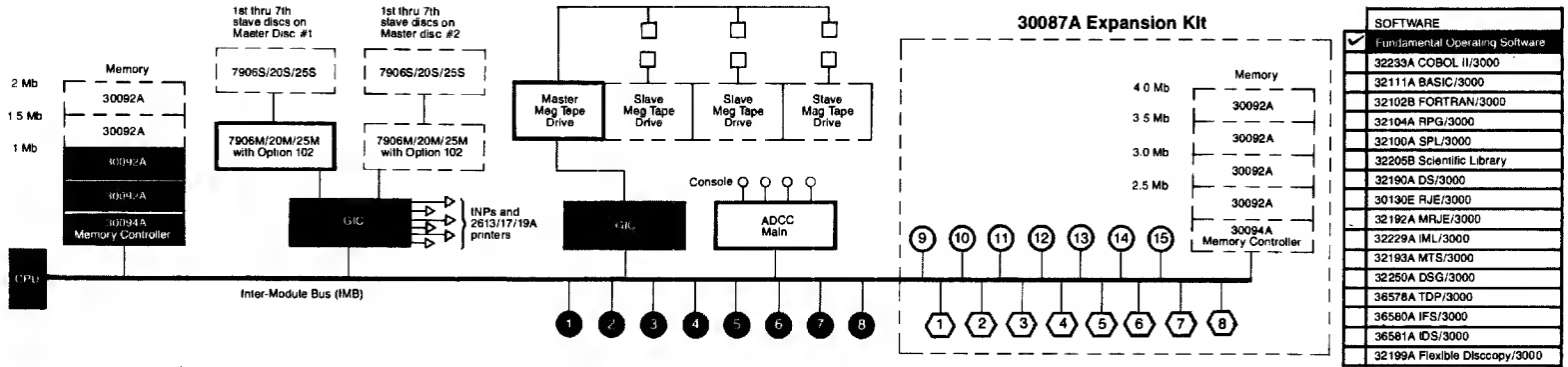
Supplied. Required. Must be ordered separately

Optional

Maximum Configuration Diagram For Series III (Model 32435B)



Maximum Configuration Diagram for Series 44 (32440A, 32441A)

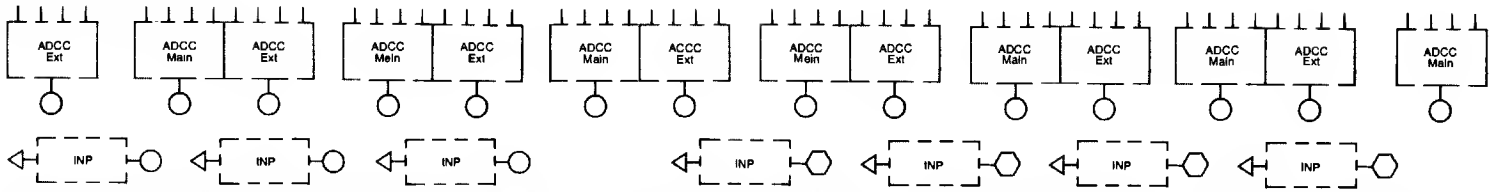


SOFTWARE
✓ Fundamental Operating Software
32233A COBOL II/3000
32111A BASIC/3000
32102B FORTRAN/3000
32104A RPG/3000
32100A SPL/3000
32205B Scientific Library
32190A DS/3000
30130E RJE/3000
32192A MRJE/3000
32229A IML/3000
32193A MTS/3000
32250A DSG/3000
36578A TDP/3000
36580A IFS/3000
36581A IDS/3000
32199A Flexible Disccopy/3000
32902A CIS/3000
32900B SIS/3000
32260A Materials Menegement/3000

KEY:

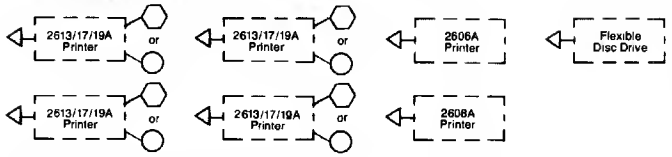
INP	= 30020A	ADCC Main	= 30016A with opt 044	1.2 Mb Flexible Disc Drive	= 9895A with opts. 010, 333	Stava Mag Tape Drive	= 7970E with opt. 421 (1600 bpi)	2606A Printer	= 2608A dot matrix line printer with opt. 344
GIC	30079A with opt. 044 (General I/O Channel)	ADCC Ext	= 30019A with opt. 044	Master Mag Tape Drive	7970E with opt. 426 (1600 bpi)	2613/17/19A Printer	= 2613A, 2617A, or 2619A line printer with opt. 344	2680A	= 2680A Intelligent Page Printer with opt. 344

Data Communications



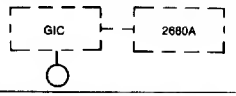
1. Tarminels Use ADCCs to connect point-to point terminals, and INPs to connect multipoint terminals. One ADCC-Main (30016A with opt. 044) is required and must be ordered separately. (This ADCC-Main supports the system console plus three additional terminals.) Up to 96 terminals total (point-to-point, multipoint, system console, and DS/3000 virtuel terminals) are allowed.
2. Point-to-Point tarminals. Each ADCC-Main or ADCC-Ext provides four terminal ports. Add ADCC-Mains and ADCC-Exte in alternating fashion: ADCC-Main, ADCC-Ext, ADCC-Main, etc. Maximum ADCC transmission rate is 9600 bps for local (hardwired) use, and 1200 bps for remote (modem) use. Up to 60 point-to-point terminals (including console) are supported. See Nota 11 for Additional Hardware Requirements.
3. Multipoint Terminels. MTS/3000 software requirad. Use one INP per multidrop line. Number of Multipoint terminals per INP line is a function of response time end application considerations. Maximum Multipoint transmission rate is 9600 bps, local or remote. Up to 95 Multipoint terminels are supported. See Notes 10 and 11 for Additional Hardware Requirements.
4. Date Communications. Use INPs for DS, MRJE, RJE, IML, or MTS (Multipoint) lines. Maximum of seven INPs total. See Notes 10 and 11 for Additional Hardware Requirements.
5. A maximum of four RS-232-C character printers (2631B with option 331) are allowed per system, when attached to ADCCs. Each 2631B printer uses one ADCC terminal port. 2601A daisy-wheel printers can also attach to ADCC ports as terminals (2631B and 2601A printers not shown.)

Line Printers and Flexible Disc Drive



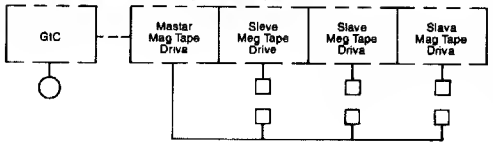
6. Maximum of two 2608A printers per system. Maximum of four 2608A and 2613/17/19A printers total per system. Maximum of one flexible disc drive (9895A with opts. 010 and 333) per system.
7. One additional GIC (30079A with opt. 044) may be required. Series 44 Expansion Kit (30087A) may be required. See Notes 10 and 11.

Intelligent Page Printer



8. The HP Intelligent Page Printer (2680A with option 344) requires a dedicated GIC (30079A with opt. 044) which is orderad separately.

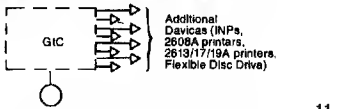
Additional Master Magnetic Tape Drive



9. An additional master magnetic tape drive (7970E with opt. 426) is required for more then four magnetic tape drives per system. To support an additional master magnetic tape drive, one additional GIC (30079A with opt. 044), dedicated to the master magnetic tape drive, is required and must be ordered separately (no devices other than the master magnetic tape drive may be attached to the GIC).

Supplied
Required. Must be ordered separately
Optional

Additional Hardware Required



10. One additional GIC (and only one) is required and must be ordered separately if any of the following conditions apply.
    a) more than three INPs
    b) one or two 2608A line printers
    c) a 9895A flexible disc drive
    d) more than six (6) total: INPs + 2613/17/19A printers
11. The Series 44 Expension Kit (30087A) is required and must be ordered separetely if any of the following apply.
    a) more than three INPs
    b) more than 2 Mb main memory
    c) more then tha eight (8) available slots are required.

ORDERING CHECKLIST

- ☐ System Processor Unit
- ☐ Add-On Memory
- ☐ I/O Expansion Kit
- ☐ System Console
- ☐ System Console Cable (Series III and 44 only)
- ☐ System Disc
- ☐ Slave Disc(s)
- ☐ Disc Pack(s)
- ☐ Magnetic Tape Drive(s)
- ☐ GIC for Magnetic Tape (Series 30, 33, and 44 only)
- ☐ Flexible Disc Drive (Series 30, 33, and 44 only)
- ☐ Printer(s)
- ☐ Line Printer Controller(s) (Series III only)
- ☐ ADCC(s) or ATC(s) for point-to-point terminals or serial RS-232 printers
- ☐ Terminal(s) and Cable(s)
- ☐ Plotters
- ☐ Power Line Conditioner (for Series 30)
- ☐ Modem(s)
- ☐ Data Communication Interface(s) and Cable(s)
- ☐ Language(s)
- ☐ Communications Software
- ☐ Information Systems Software
- ☐ Manufacturing Applications Software
- ☐ Software Support
- ☐ Training Courses
- ☐ System Engineering Consulting
- ☐ Additional Manuals
- ☐ Manual Update Service
- ☐ Hardware Support
- ☐ Supplies (from HP Customer Supplies Operation)

System Ordering Information

System Processor Units ■ I/O Expansion ■ Memory Expansion ■ Disc Drives ■ Magnetic Tape Drives ■ Printers ■ Laser Printing System ■ HP-IB Cables ■ Card I/O, Paper Tape I/O and Plotter Interface

PRODUCT NO. AND OPTIONS	DESCRIPTION
	System Processor Units — Series 30
32430C (U.S.A. version)	HP 3000 Series 30 System Processor Unit: 100 or 120V, 60 Hz, single phase; 256Kb fault control memory; 1 General I/O Channel; remote diagnostic capability; system cabinet. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)). Complete user manual set. Must order option 001 or 002. THE FOLLOWING ARE REQUIRED FOR THE SERIES 30 AND MUST BE ORDERED SEPARATELY: 1) System disc drive (7906M, 7920M, or 7925M, all with option 102) 2) ADCC-Main to support System/Maintenance Console (30018A with option 030) 3) System/Maintenance Console (2649E—cable included) 4) Either: a) 1600 bpi Magnetic Tape Drive* (7970E with option 426) and General I/O Channel (GIC) (30079A with option 030), OR b) 1.2 Mb Flexible Disc Drive (9895A with options 010 and 333)
001	Software shipped with system on flexible discs
002	Software shipped with system on 1600 bpi magnetic tape
201	Add Console Table
32431C (International version)	HP 3000 Series 30 System Processor Unit: 220 or 240V, 50 Hz, single phase; 256Kb fault control memory; 1 General I/O Channel; remote diagnostic capability; system cabinet. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)). Complete user manual set. Must order option 001 or 002. Order option 015 for each peripheral for 220/240V, 50 Hz single phase operation. THE FOLLOWING ARE REQUIRED FOR THE SERIES 30 AND MUST BE ORDERED SEPARATELY: 1) System disc drive (7906M, 7920M, or 7925M, all with options 015 and 102) 2) ADCC-Main to support System/Maintenance Console (30018A with option 030) 3) System/Maintenance Console (2649E with option 015—cable included) 4) Either: a) 1600 bpi Magnetic Tape Drive* (7970E with option 426) and General I/O Channel (GIC) (30079A with option 030), OR b) 1.2 Mb Flexible Disc Drive (9895A with options 001, 010 and 333)
001	Software shipped with system on flexible discs
002	Software shipped with system on 1600 bpi magnetic tape
201	Add Console Table.
	**The magnetic tape drive is usually required. See Series 30 Configuration Guidelines.*

PRODUCT NO. AND OPTIONS	DESCRIPTION
	Additional Series 30 Product
35030A	1.8 kVA Power Line Conditioner for Series 30. Provides noise suppression and protection against short and long-term voltage fluctuations.
	System Processor Units – Series 33
32412C (U.S.A. version)	HP 3000 Series 33 System Processor Unit: 200–240V, 60 Hz, single phase; 256Kb fault control memory; 2 General I/O Channels; remote diagnostic capability; system desk mainframe; isolation transformer included in desk mainframe. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)). Complete user manual set. Order option 001 or 002. THE FOLLOWING ARE REQUIRED FOR THE SERIES 33 AND MUST BE ORDERED SEPARATELY: 1) System Disc Drive (7906M, 7920M, or 7924M, all with option 102) 2) ADCC-Main to support System/Maintenance Console (30018A) 3) System/Maintenance Console (2649E—cable included) 4) Either: a) 1600 bpi Magnetic Tape Drive* (7970E with option 426) and General I/O Channel (GIC) (30079A), OR b) 1.2 Mb Flexible Disc Drive (9895A with options 010 and 333)
001	Software shipped with system on flexible discs
002	Software shipped with system on 1600 bpi magnetic tape
32413C (International version)	HP 3000 Series 33 System Processor Unit: 220 or 240V, 50 Hz, single phase; 256Kb fault control memory; 2 General I/O Channels; remote diagnostic capability; system desk mainframe; isolation transformer included in desk mainframe. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)). Complete user manual set. Order option 001 or 002. Order option 015 with each peripheral for 220/240V, 50 Hz single phase operation. THE FOLLOWING ARE REQUIRED FOR THE SERIES 33 AND MUST BE ORDERED SEPARATELY: 1) System Disc Drive (7906M, 7920M, or 7925M, all with options 015 and 102) 2) ADCC-Main to support System/Maintenance Console (30018A) 3) System/Maintenance Console (2649E with option 015—cable included) 4) Either: a) 1600 bpi Magnetic Tape Drive* (7970E with option 426) and General I/O Channel (GIC) (30079A), OR b) 1.2 Mb Flexible Disc Drive (9895A with options 001, 010, and 333)
001	Software shipped with system on flexible discs
002	Software shipped with system on 1600 bpi magnetic tape
	**The magnetic tape drive is usually required. See Series 33 Configuration Guidelines.*

SYSTEM ORDERING INFORMATION

PRODUCT NO. AND OPTIONS	DESCRIPTION
	System Processor Unit — Series III
32435B	HP 3000 Series III System Processor Unit: 200-240V, 60 Hz, single phase; 256 Kb fault control memory; 16 port Asynchronous Terminal Controller with Bell 103, 202T and 212 modem support;* capacity for 48 asynchronous terminal ports; 30215A magnetic tape controller included in system cabinet; 1 system cabinet and console table; isolation transformer included in system cabinet. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000)). Complete user manual set. Software distributed on 1600 bpi magnetic tape. A 7970E OR 7970B SYSTEM MAGNETIC TAPE DRIVE IS REQUIRED AND MUST BE ORDERED SEPARATELY; SPECIFY OPTION 324 FOR THE FIRST MAGNETIC TAPE DRIVE. A SYSTEM DISC (7920M, 7925M) IS REQUIRED AND MUST BE ORDERED SEPARATELY. A SYSTEM CONSOLE (262x, 2635B, 264x TERMINAL) AND APPROPRIATE TERMINAL CABLE ARE REQUIRED AND MUST BE ORDERED SEPARATELY. ORDER OPTION 015 FOR THE SYSTEM AND EACH PERIPHERAL IF 220V, 50 HZ SINGLE PHASE OPERATION IS DESIRED.
008	Supply software on 800 bpi NRZI magnetic tape
015	230V, 50 Hz single-phase operation.
200	Additional I/O cabinet. Adds 20 I/O slots and capacity for an additional 16 asynchronous terminal ports (total 64)
505	Expands memory to 512 Kb
506	Expands memory to 768 Kb
507	Expands memory to 1024 Kb
509	Expands memory to 1536 Kb
511	Expands memory to 2048 Kb
	**For performance reasons, 202S modems are not recommended for use with HP 3000's. However, if Bell 202S modem control is required for the ATC (30032B) included in the System Processor Unit, order 30441A ATC Field Upgrade Kit.*

PRODUCT NO. AND OPTIONS	DESCRIPTION
	System Processor Units — Series 44
32440A (U.S.A. Version)	HP 3000 Series 44 System Processor Unit: 200–240V, 60Hz, single phase; 1 Megabyte fault control memory; 2 General I/O Channels (GICs); remote diagnostic capability; system desk mainframe; isolation transformer included in desk mainframe. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000.)) Complete user manual set. THE FOLLOWING ARE REQUIRED FOR THE SERIES 44 AND MUST BE ORDERED SEPARATELY: 1) System Disc Drive (7906M, 7920M, or 7925M, all with option 102) 2) ADCC-Main to support System Console (30018A with option 044) 3) System Console (262x, 264x, or 2635B terminal—cable must be ordered separately for 262x or 264x) 4) 1600 bpi Magnetic Tape Drive (7970E with option 426)
32441A (International Version)	HP 3000 Series 44 System Processor Unit: 200–240V, 50Hz, single phase; 1 Megabyte fault control memory; 2 General I/O Channels (GICs); remote diagnostic capability; system desk mainframe; isolation transformer included in desk mainframe. Fundamental Operating Software (MPE operating system, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000.)) Complete user manual set. Order option 015 for each peripheral for 220/240V, 50 Hz single phase operation. THE FOLLOWING ARE REQUIRED FOR THE SERIES 44 AND MUST BE ORDERED SEPARATELY: 1) System Disc Drive (7906M, 7920M, or 7925M, all with options 015 and 102) 2) ADCC-Main to support System Console (30018A with option 044) 3) System Console (262x, 264x, or 2635B terminal, all with option 015—cable must be ordered separately for 262x and 264x) 4) 1600 bpi Magnetic Tape Drive (7970E with option 426)

SYSTEM ORDERING INFORMATION

AVAILABILITY		PRODUCT NO. AND OPTIONS	DESCRIPTION
			I/O Expansion
3x	44	30018A	Asynchronous Data Communications Controller (ADCC)—Main (4 terminal ports). Includes Bell 103, 212, and 202T (US only) type modem support. Provides data transmission up to 9600 bps for local (hardwired) use, and up to 1200 bps for remote (modem) use. Order option 030 for Series 30 and option 044 for Series 44. Order no option for Series 33.
30		030	Series 30 cable.
	44	044	Series 44 cable.
3x	44	30019A	Asynchronous Data Communications Controller (ADCC)—Extender (4 terminal ports). Includes European 202S* type modem support for ADCC-Main and ADCC-Extender. Provides data transmission up to 9600 bps for local (hardwired) use, and up to 1200 bps for remote (modem) use. Only one Extender may be ordered for each Main. Order option 030 for Series 30 and option 044 for Series 44. Order no option for Series 33.
30		030	Series 30 cable.
	44	044	Series 44 cable.
3x	44	30079A	General I/O Channel (GIC). On the Series 30 or 33, order with the master magnetic tape drive to support magnetic tape drives on the system. On the Series 44, order for second master magnetic tape drive. Also order when required for additional I/O devices (as specified by Configuration Guidelines.) Order option 030 for Series 30 and option 044 for Series 44. Order no option for Series 33.
30		030	Series 30 cable.
	44	044	Series 44 cable.
	III	30032B	Asynchronous Terminal Controller. Provides 16 terminal ports for 2400 bps point-to-point terminals. Must order option 001 or 002 or both for remote (modem) use.
		001	Adds Bell 202T, 103 and 212 modem support up to 1200 bps.
		002	Adds Bell 202S* type modem support up to 1200 bps.
	III	30441A	Asynchronous Terminal Controller Field Upgrade Kit. Converts a standard 30032B to a 30032B-001. The same kit converts a 30032B-001 to a 30032B-002. Ordering of two kits converts a standard 30032B to a 30032B-002.
33		30416A	HP 3000 Series 33 Expansion Kit. Includes second card cage, cooling unit, and power supply. Provides 13 additional I/O slots.
	III	30235A	I/O Expansion Kit for HP 3000 Series III. Adds 1 cabinet with 20 I/O slots and capacity for an additional 16 asynchronous terminal ports.
	44	30087A	HP 3000 Series 44 Expansion Kit. Includes second card cage, cooling unit, and power supply. Provides 15 additional I/O slots.

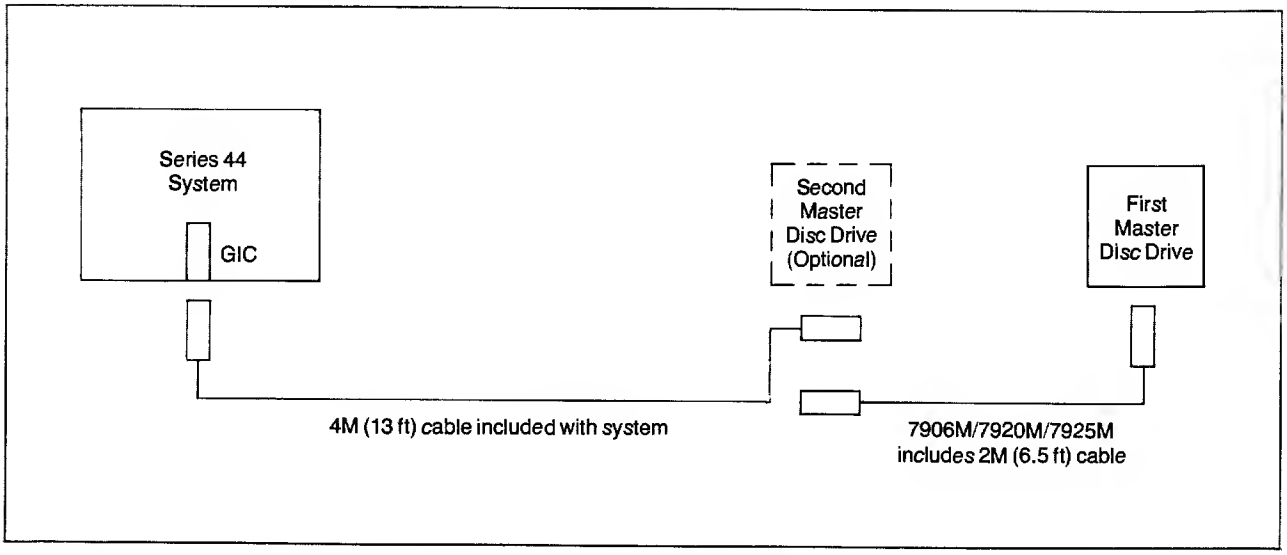
**For performance reasons, 202S type modems are not recommended for use with HP 3000's.*

AVAILABILITY			PRODUCT NO. AND OPTIONS	DESCRIPTION
				Memory Expansion
3x			30078A	128 Kb Series 3x Memory Array. Fault Control, 16K RAM Semiconductor Memory. Order 128 Kb arrays in pairs, so that resulting Series 3x memory is a multiple of 256 Kb (i.e. 512 Kb, 768 Kb, or 1024 Kb.)
	III		30008B	256 Kb Memory Array. *Note: Only 256 Kb, 512 Kb, 768 Kb, 1024 Kb, 1536 Kb, and 2048 Kb memory sizes are supported. When ordering additional memory (30008B) make sure that the total system memory is equal to one of the supported sizes.*
		44	30092A	512 Kb Series 44 Memory Module. Fault control, 16K RAM Semiconductor memory.
		44	30094A	Add-On Series 44 Memory Controller. Order for memory capacity exceeding 2 Mb. *(Note: requires 30087A Series 44 Expansion Kit.)*
	III		30418A	1536 Kb Memory Expansion Kit. For all HP 3000 Series III's. Expands system memory from 1024 Kb to 1536 Kb. See notes below for prerequisites. To expand to the full 2048 Kb also order two 30008B 256 Kb memory array boards.
			001	Adds one 30311A power supply. Required for all model 32421A Series III's. Also required for any Series III upgraded from a Series II which had only one 30311A power supply. (Order option 001 for Series III (32421A) and Series II with 256 Kb or less. Do not order option 001 for Series III (32435B) or Series II with 320 Kb to 512 Kb.) *Prerequisites:* *You must have a Series III with 1024 Kb of memory purchased as either a system option or as an upgrade with a 30417A Series II upgrade kit.* *If your HP 3000 Series III was upgraded from an HP 3000 Series II Model 5 or 7 and you wish to expand to 1536 Kb of memory or greater, you must order a 30408A-002 I/O expansion kit as a prerequisite to ordering the 30418A Series III memory expansion kit.*
				Disc Drives
3x		44	9895A	Flexible Disc Drive. Must order options 010 and 333.
			001	Specifies 220–240V/50 Hz operation.
			010	1.2 Mb Single Flexible Disc Master Drive.
			068	Twenty flexible discs (double-sided, double-density, 8-inch discs.)
			333	2M HP-IB Cable for Series 3x or 44.
3x		44	92195A	Flexible disc media for 9895A Flexible Disc Drive; package of ten (10) flexible discs.
3x		44	7906M	Master 20 Mb Cartridge Disc. Includes drive, cartridge, controller and low profile cabinet.
			015	Specifies 220V/50 Hz single phase operation. Specify destination country for correct power cord.
			102	Specifies HP-IB interface and 2M (6.5 ft) cable.
3x	III	44	7920M	Master 50 Mb Disc. Includes drive, pack, controller and low profile cabinet.

SYSTEM ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Disc Drives (continued)
3x III 44	015	Specifies 220V/50 Hz single phase operation. Specify destination country for correct power cord.
3x 44	102	Specifies HP-IB interface and 2M (6.5 ft) cable
3x III 44	7925M	Master 120 Mb Disc. Includes drive, pack, controller and low profile cabinet.
3x III 44	015	Specifies 220V/50 Hz single phase operation. Specify destination country for correct power cord.
3x 44	102	Specifies HP-IB interface and 2M (6.5 ft) cable
3x 44	7906S	Add-on 20 Mb Disc Drive. For use as second through eighth add-on drive. Includes 12940A cartridge, low-profile cabinet, and cables [2.4M (8 ft) multi-unit and 15.2M (50 ft) data cables].
	015	220V/50 Hz single phase operation. Specify destination country for correct power cord.
3x III 44	7920S	Add-on 50 Mb Disc Drive. For use as second through eighth add-on drive. Includes 7920, 13394A disc pack, cabinet, and cables [2.4M (8 ft) multi-unit and 15.2M (50 ft) data cables].
	015	220V/50 Hz single phase operation. Specify destination country for correct power cord.
3x III 44	7925S	Add-on 120 Mb Disc Drive. For use as second through eighth add-on drive. Includes 7925, 13356A disc pack, cabinet and cables [2.4M (8 ft) multi-unit and 15.2M (50 ft) data cables].
3x III 44	015	220V/50 Hz single phase operation. Specify destination country for correct power cord.
III	250	Disc Controller Upgrade for 7925S support. For HP 3000 systems shipped prior to June, 1978 only (approximate). Upgrades the disc controller (13037A/B), resident in either the HP 3000 mainframe or in the master disc drive, to support the 7925S disc drive. (13037-60024 error correction board required.) *Note: This option replaces the existing 13037-60002 board with the 13037-60028 board.*
3x III 44	7925T	Add-on 240 Mb Disc Storage System. Consists of two 7925S add-on 120 Mb disc drives, including two 13356A disc packs, cabinets and cables [2.4M (8 ft) multi-unit and 15.2M (50 ft) data cables].
	015	220V/50 Hz single-phase operation. Specify destination country for correct power cord.
3x 44	12940A	7906 Disc Cartridge
3x III 44	13394A	7920 Disc Pack
3x III 44	13356A	7925 Disc Pack

Series 44 Cabling for Master Disc Drives



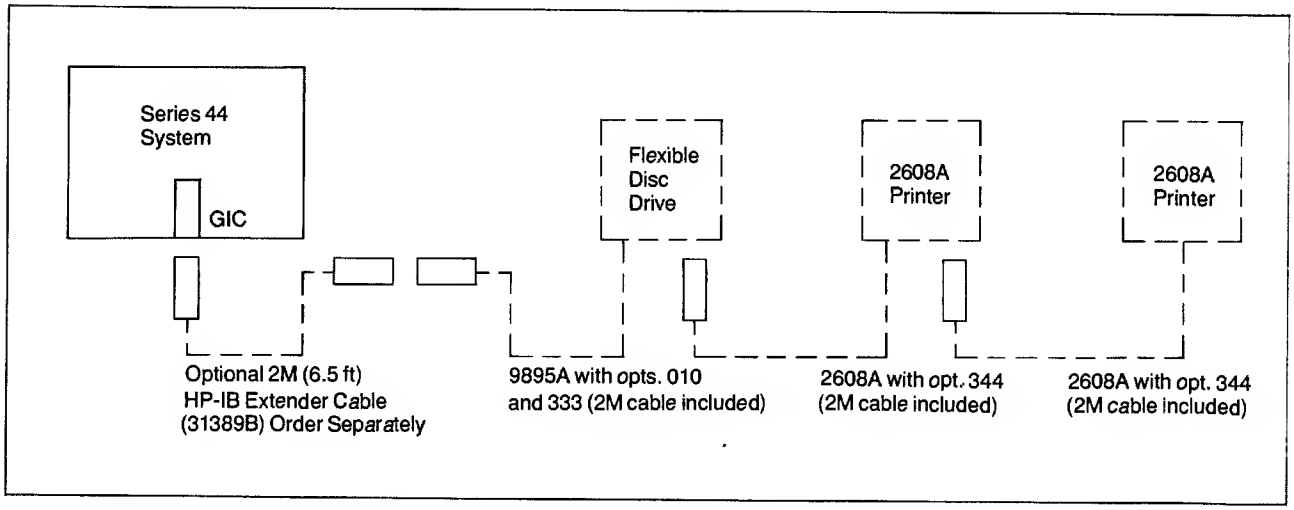
First master disc drive (7906M, 7920M, 7925M) can be up to 6M (19.5 ft) from Series 44 System. Up to seven slave drives (not shown) can be attached to first master disc drive. Second master disc drive (7906M, 7920M, 7925M), if used, must be attached to daisy-chain so that total cable length does not exceed 6M (for example, see diagram.) Up to seven slave drives (not shown) can be attached to second master drive.

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Magnetic Tape Drives and Controllers
III	30215A	Mag Tape Controller. Required for 5th through 8th 7970B or 7970E mag tapes with 300 level options to an HP 3000 Series III. Note that the standard 32435B Series III system includes a mag tape controller for the first four mag tape drives.
III	7970B	800 bpi 45 ips Mag Tape. Must order option 320 or 324 to interface drive to an HP 3000 Series III. 50/60 Hz, 115/230V switch.
	320	Specify this option for add-on drives (2nd, 3rd, and 4th drive) on 30215A controller. Includes HP 3000 low-boy cabinet and 6.1M (20 ft) multi-unit cable.
	324	Specify this option for first drive on a 30215A mag tape controller; additional drives on controller must be 7970B-320 (800 bpi). Includes HP 3000 low-boy cabinet and HP 3000 interface cable.
3x III 44	7970E	1600 bpi, 45 ips Mag Tape. Must order option 320, 321, or 324 to interface drive to an HP 3000 Series III. Must order option 426 for master or 421 for slave drive for HP 3000 Series 3x or 44. 9 track phase encoded, 115V/230V switch; 50/60 Hz. Power Cord supplied.

AVAILABILITY			PRODUCT NO. AND OPTIONS	DESCRIPTION
				Magnetic Tape Drives and Controllers (continued)
	III		320	Specify this option for 2nd, 3rd, and 4th master drive on 30215A controller. Includes HP 3000 low-boy cabinet and multi-unit cable.
	III		321	Specify this option for 1st, 2nd and 3rd slave drive on 30215A controller. Includes HP 3000 low-boy cabinet and slave multi-unit cable. Must be used with a 7970E-324 master unit.
	III		324	Specify this option for first drive on a 30215A controller. Includes HP 3000 low-boy cabinet and HP 3000 interface cable. Must be ordered if 800 bpi density 7970B drives are to be mixed with 1600 bpi 7970E drives interfaced to the same 30215A controller. *Notes: One drive on a magnetic tape controller must be a master.* *Master/slave electronic relationship: Two masters on the same controller offer greater redundancy than a master and a slave. With the master/slave relationship, the slave shares the master's electronics; the slave will not function if the master is not operative. With a master/master relationship, if the first master is not operative it does not affect the second master's performance.* *For add-on tape drive to Series I, Series II, and Series III model 32421A systems, consult the HP 3000 Upgrade Products Configuration Guide for these products.*
3x		44	426	Specifies HP-IB Master drive. Includes low-boy cabinet and HP-IB integrated controller. 6M (19.7 ft) data cable is included. A separate GIC is required and must be ordered separately for use on a Series 3x (30079A with option 030 for Series 30, and 30079A for Series 33). Series 44 systems with a second master magnetic tape drive require a separate GIC which must be ordered separately (30079A with opt. 044.)
3x		44	421	Specifies HP-IB Slave drive. Includes low-boy cabinet and multi-unit cable: Cable length 6.1M (20 ft).
				Printers and Controllers
	III		30209A	Line Printer Controller. Interfaces one 2608A, 2613A, 2617A, or 2619A printer with option 300 to an HP 3000 Series III.
3x	III	44	2601A	40 cps Daisy-Wheel Printer. Includes serial RS-232-C interface and 3M (10 ft) cable for hard-wired attachment to an ADCC (Series 3x and 44) or ATC (Series III) port as a terminal. Cable length may be extended by 7.6M (24.7 ft) with 30062C hardwire extender cable. (See also Graphics and Terminal Printer Products).
3x	III	44	015	Specifies 220V, 50 Hz single-phase operation. *Note: MPE supports the 2601A as a non-spooled device only. The 2601A requires use of supporting application software.*
3x	III	44	2631B	180 cps Dot Matrix Printer. Must order option 331 unless used as a terminal printer (See Graphics and Terminal Printer Products). Pedestal stand not included.
			015	Specifies 220V, 50 Hz single phase operation.
			331	RS-232-C local/remote spooled printer capability and 3.5M (11.3 ft) cable, for attachment to ADCC (Series 3x or 44) or ATC (Series III). *Note: MPE does not support down-loadable vertical forms control, page length control, or programmatic access to: printer reset, status reset or printer self-test.* *Note: Maximum of four 2631B's per HP 3000 system supported.*

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Printers (continued)
		Additional Products
3x III 44	26090A	Sound abatement cover for 2631B or 2635B.
3x III 44	26097A	Pedestal Stand for 2631B or 2635B (casters included).
	002	Add paper catcher.
3x III 44	2608A	400 lpm Dot Matrix Printer. Must order option 333 for Series 3x, option 344 for Series 44, or option 300 for Series III. 128 character USASCII set. Includes enclosed stand with casters, paper basket. Monthly maintenance charge allows three levels of monthly usage. *Note: MPE supports only the following features: print and space operation, downloadable Vertical Forms Control, Programmatically adjustable left margin, programmatic selection between primary and secondary character sets, programmatic selection of lines per inch. Escape sequencing is not supported.*
3x III 44	001	Language option. Adds Arabic, Cyrillic, Katakana, and draw.
3x III 44	002	Substitution option. Adds APL, French, German, Swedish/Finnish, Norwegian/ Danish, Spanish, British
3x III 44	015	Specifies 220V, 50 Hz single phase operation
3x III 44	110	Add sound cover
III	300	Adds HP 3000 Series III interface cable and documentation
3x	333	Adds HP 3000 Series 3x HP-IB interface, 2M (6.6 ft) cable, and documentation
44	344	Adds HP 3000 Series 44 HP-IB interface, 2M (6.6 ft) cable, and documentation

Series 44 Cabling for 2608A Printer(s) and/or Flexible Disc Drive



Note. 2608A printers and/or flexible disc drive are daisy-chained to a single GIC. (A GIC is required and must be ordered separately to support any or all 2608A printers or flexible disc drive). Printers, flexible disc drive, and optional 2M extender cable may be in any order on the daisy chain. Only one optional extender cable allowed.

AVAILABILITY			PRODUCT NO. AND OPTIONS	DESCRIPTION
				Printers (continued)
3x	III	44	2613A	300 lpm Line Printer. With 136 columns, 64 characters; 115V, 60 Hz. Order option 300, 301, 302, or 344.
3x	III	44	001	96 character set; 240 lpm
3x	III	44	002	64-character set with OCR-B font. Slug character replaces backslash
3x	III	44	003	96 character set with OCR-B font as above
3x	III	44	015	220V, 50 Hz, single-phase operation
	III		300	Adds HP 3000 Series III interface cable and documentation.
30			301	Adds HP 3000 Series 30 interface and required cabling. Interface occupies one I/O slot in Series 30 system. 15 M (50 ft) cable supplied from interface to printer.
33			302	Adds HP 3000 Series 33 interface and required cabling. Interface occupies one I/O slot in Series 33 system. 15M (50 ft) cable supplied from interface to printer.
		44	344	Adds HP 3000 Series 44 interface and required cabling. Interface occupies one I/O slot in Series 44 system. 15 M (50 ft) cable supplied from interface to printer.
3x	III	44	2617A	600 lpm Line Printer. With 136 columns, 64 characters, 115V, 60 Hz. Order option 300, 301, 302, or 344.
3x	III	44	001	96 character; 436 lpm
3x	III	44	002	64 character set with OCR-B font. Slug character replaces backslash
3x	III	44	003	96 character set with OCR-B font.
3x	III	44	015	220V, 50 Hz, single-phase operation
	III		300	Adds HP 3000 Series III interface cable and documentation.
30			301	Adds HP 3000 Series 30 interface and required cabling. Interface occupies one I/O slot in Series 30 system. 15 M (50 ft) cable supplied from interface to printer.
33			302	Adds HP 3000 Series 33 interface and required cabling. Interface occupies one I/O slot in Series 33 system. 15M (50 ft) cable supplied from interface to printer.
		44	344	Add HP 3000 Series 44 interface and required cabling. Interface occupies one I/O slot in Series 44 system. 15 M (50 ft) cable supplied from interface to printer.
3x	III	44	2619A	1000 lpm Chain Technology Line Printer. With 132 columns, 64 characters; 115V, 60 Hz. Monthly maintenance charge allows three levels of monthly usage. Order option 300, 301, 302, or 344.
3x	III	44	001	96 character set; 750 lpm
3x	III	44	002	64 character set with OCR-B font. Slug character replaces backslash

AVAILABILITY			PRODUCT NO. AND OPTIONS	DESCRIPTION
				Printers (continued)
3x	III	44	003	96 character set with OCR-B font as above
3x	III	44	015	220V, 50 Hz, single-phase operation
3x	III	44	016	100V, 50 Hz, single-phase operation
	III		300	Adds HP 3000 Series III interface cable and documentation.
30			301	Adds HP 3000 Series 30 interface and required cabling. Interface occupies one I/O slot in Series 30 system. 15M (50 ft) cable supplied from interface to printer.
33			302	Adds HP 3000 Series 33 interface and required cabling. Interface occupies one I/O slot in Series 33 system. 15M (50 ft) cable supplied from interface to printer.
		44	344	Add HP 3000 Series 44 interface and required cabling. Interface occupies one I/O slot in Series 44 system. 15M (50 ft) cable supplied from interface to printer.
3x	III	44	E01	Isolation transformer. Required for all European installations.
				2680 Laser Printing System
				The 2680 Laser Printing System consists of the 2680A Intelligent Page Printer, IFS/3000 Interactive Formatting System/3000 software (36580A), and IDS/3000 Interactive Design System/3000 software (36581A). For IFS/3000 and IDS/3000 ordering information, see HP 3000 software section.
3x		44	2680A	Intelligent Page Printer. Laser scanning technology-based printer provides flexible, high-quality document printing at speeds up to 45 pages per minute. 208–240V, 60 Hz, single phase operation. Includes 256 Kb memory for storing page formats and character sets, with room for expansion to 512 Kb. Includes paper input tray, splicing table, and powered output stacker table. Must order one subsystem option: 301 for Series 30, 302 for Series 33, or 344 for Series 44.
3x		44	015	208–240V/50 Hz operation.
3x		44	099	Replaces 8M interface cable provided by options 301, 302, or 344 with 2M cable.
30			301	Adds HP 3000 Series 30 HP-IB cable (8M), starter kit, installation, and documentation.
33			302	Adds HP 3000 Series 33 HP-IB cable (8M), starter kit, installation, and documentation.
		44	344	Adds HP 3000 Series 44 HP-IB cable (8M), starter kit, installation, and documentation.
3x		44	505	Add-on 256 Kb memory module to expand total 2680A memory to 512 Kb.
				Additional 2680A Products
3x		44	26080A	256 Kb memory module for 2680A Intelligent Page Printer.

SYSTEM ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		HP-IB Cables
3x 44	31389B	HP-IB Cable. 2M (6.56 ft)
		Card I/O, Paper Tape I/O and Plotter Interface
III	30106A	80-Column Card Reader and Controller. 600 cpm; 115V, 60 Hz. Includes card reader, controller/interface, device diagnostic software, and card reader manual No. 30106-90001.
	015	230V, 50 Hz single-phase operation.
III	30119A	80-Column Card Reader/Punch and Controller. Reads 176-200 cpm, punches 45-75 cpm; 115V, 60 Hz. Includes card reader/punch, universal interface package consisting of interface card and cable, device diagnostic software. Must order option 002.
	002	Add keyboard for off-line use.
	015	230V, 50 Hz single-phase operation.
III	30104A	Paper Tape Reader and Controller. Reads 500 cps at 60 Hz, 420 cps at 50 Hz. Includes tape reader, rack mounting kit, controller/interface, device diagnostic software, and manual (30104-90001). Option 003 or 004 must be ordered with Series III Model 32435B. For other HP 3000 systems refer to note below.
	003	Add low-profile cabinet. 115V, 60 Hz
	004	Add low-profile cabinet. 230V, 50 Hz. Requires option 015.
	015	230V, 50 Hz operation.
		Operating Accessory Available:
III	12575C	Paper Tape Winder, 115V, 60 Hz/battery. Includes rechargeable battery.
III	30105A	Paper Tape Punch and Controller. Punches 75 cps. Includes tape punch, controller/interface, device diagnostic software, and manual (30105-90001). 50/60 Hz switch-selectable. Option 003 or 004 must be ordered with Series III Model 32435A. For other HP 3000 systems refer to note below.
	003	Add low-profile cabinet. 115V, 60 Hz.
	004	Add low-profile cabinet. 230V, 50 Hz. *Note: The paper tape reader and paper tape punch subsystems together require 17 vertical inches of cabinet space. One subsystem or both may be installed below the magnetic tape drive on a three-bay system, if no other equipment occupies that space. Option 003 or 004 must be ordered to provide a cabinet for one or both subsystems if this space is not available.*
III	30126A	CalComp 565 Series Plotter Interface
	001	CalComp 702 series plotter interface

Terminal Communications Products

Support Matrix ■ Display Terminal Options ■ Cabling Diagrams
Ordering Information

TERMINAL COMMUNICATIONS SUPPORT MATRIX

CAPABILITY	HOST SYSTEM(S)	SOFTWARE	REQUIRED HARDWARE	SUPPORTED TERMINALS/ PRINTERS
Point-to-Point Configurations	Series 3x or 44	Supplied Standard	ADCC: (must be ordered separately)	264x, 262x, 2635B, 307x, 2631B, 2675A
	Series III	Supplied Standard	ATC: one standard with System Processor Unit	264x, 262x, 2635B, 307x, 2631B, 2675A
Multipoint Configurations Hardwired Data Link (Asynchronous)	Series 3x or 44	MTS/3000 (32193A/R)	INP (30020A) (order INP cables separately) Data Link Adapter(s) (3074A): one per INP and one per 264x or 2626A terminal	264x terminals (excluding 2640 A/B, 2644A, 2649x) with asynchronous multipoint interface (option 033); 2626A terminals with 13267A or 13268A asynchronous interface; 307x terminals
	Series III	MTS/3000 (32193A/R)	INP (30010A) or SSLC (30055A-001). (Order INP cables separately) Data Link Adapter(s) (3074A): one per INP or SSLC and one per 264x or 2626A terminal.	Same as Above.
Remote Daisy Chain Link (Synchronous)	Series 3x or 44	MTS/3000 (32193A/R)	INP (30020A) (Order INP cable separately)	264x terminals (excluding 2640 A/B, 2644A, 2649x) with synchronous multipoint interface (option 034); 2626A terminals with 13267A-001 or 13268A-001 synchronous multipoint interface
	Series III	MTS/3000 (32193A/R)	INP (30010A) or SSLC (30055A) (Order INP cable separately)	Same as Above.

INTERACTIVE DISPLAY TERMINAL OPTION SUMMARY CHART

	2621 A/P	2624A	2626A	2640B*	2641A†
Maximum Data Rate (bits per second) (see Note 1)	9600	9600	9600	2400	9600
Memory	48 lines	Up to 32 Kb	119 lines	5–8 Kb	4–12 Kb
Block or character mode (see Note 2)	Char mode only	STD	STD	STD	STD
Inverse Video	N/A	STD	STD	STD	STD
Underline, Half-bright, blinking	Underline only STD	STD	Underline and Blinking	AVAIL	STD
User-definable Soft Keys	N/A	8 STD	8 STD	N/A	8 STD
Option slots supplied	none	none	none	1	5
Character set supplied (see Note 4)	128 Roman	128 Roman	128 Roman	128 Roman	64 Roman + 128 APL
Other (see Note 3)	120 cps thermal printer on 2621P	120 cps thermal printer optional; extended edit checks	Dual ports; 4 windows/ workspaces; 120 cps thermal printer optional		
Lower case/displayable control codes (see Note 4)	STD	STD	STD	STD	128 Roman
Integrated dual cartridge tapes	N/A	N/A	N/A	N/A	OPT
230V, 50 Hz operation	(see Note 5)	OPT	OPT	OPT	OPT
115V, 50 Hz operation	OPT	OPT	OPT	OPT	OPT
Multipoint Interface	N/A	N/A	AVAIL	N/A	OPT
Math symbols, alternate character set	N/A	OPT	OPT	AVAIL	OPT
Large character, alternate character set	N/A	OPT	OPT	AVAIL	OPT

KEY: STD—Standard with terminal, OPT—Option ordered with terminal, AVAIL—Order separate product, N/A—Not Avail, CTU—Cartridge Tape Unit.

†*APL/3000 is available only on the HP 3000 Series III. The 2641A is supported on the HP 3000 as a 2645A when used without APL/3000.*

**Character sets for languages other than English are available on other models of these terminals. See your Hewlett-Packard Sales Representative for details.*

INTERACTIVE DISPLAY TERMINAL OPTION SUMMARY CHART (continued)

	2642A	2645A*	2647A	2648A
Maximum Data Rate (bits per second) (see Note 1)	9600	9600	9600	9600
Memory	Up to 9 Kb	4–12 Kb	Up to 9 Kb	8–12 Kb
Block or character mode (see Note 2)	STD	STD	STD	STD
Inverse Video	STD	STD	STD	STD
Underline, Half-bright, blinking	STD	AVAIL	AVAIL	AVAIL
User-definable Soft Keys	8 STD	8 STD	8 STD	8 STD
Option slots supplied	5 STD; 4 with CTU	7	1	4
Character set supplied (see Note 4)	128 Roman	128 Roman	128 Roman	128 Roman
Other (see Note 3)	Flexible Mini-Disc		Graphics & Intelligence	Graphics Features
Lower case/displayable control codes (see Note 4)	STD	STD	STD	STD
Integrated dual cartridge tapes	OPT	OPT	STD	OPT
230V, 50 Hz operation	OPT	OPT	OPT	OPT
115V, 50 Hz operation	OPT	OPT	OPT	OPT
Multipoint Interface	OPT	OPT	OPT	OPT
Math symbols, alternate character set	STD	AVAIL	AVAIL	AVAIL
Large character, alternate character set	STD	AVAIL	AVAIL	AVAIL

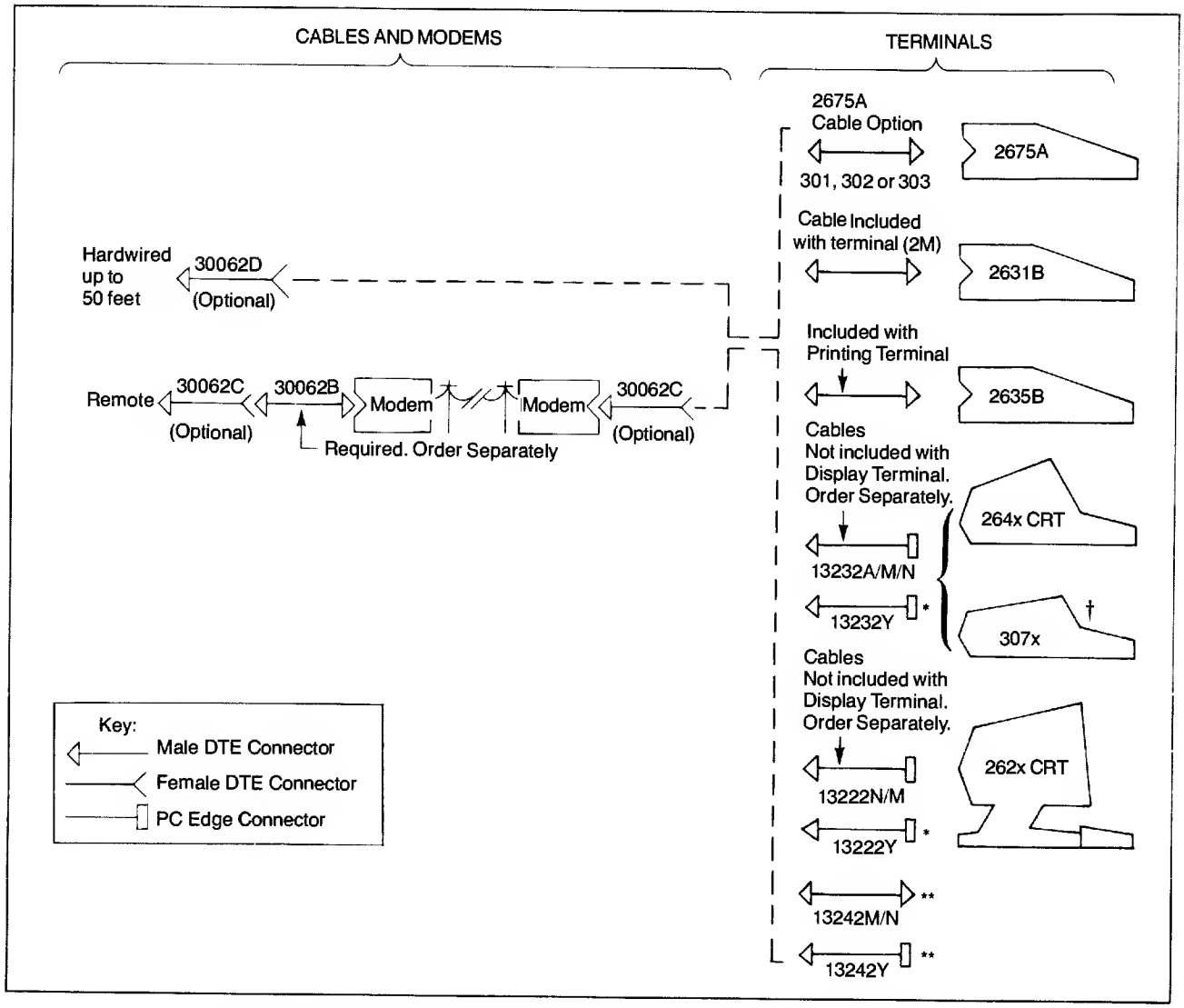
Notes:

1. *The maximum point-to-point data rate is 2400 bits per second (B.P.S.) for 264x and 262x series terminals on HP 3000 Series III systems and 9600 bps on HP 3000 Series 3x and 44 systems. HP 264x and 262x terminals equipped with Multipoint hardware connected to the INP can operate at 9600 B.P.S.*

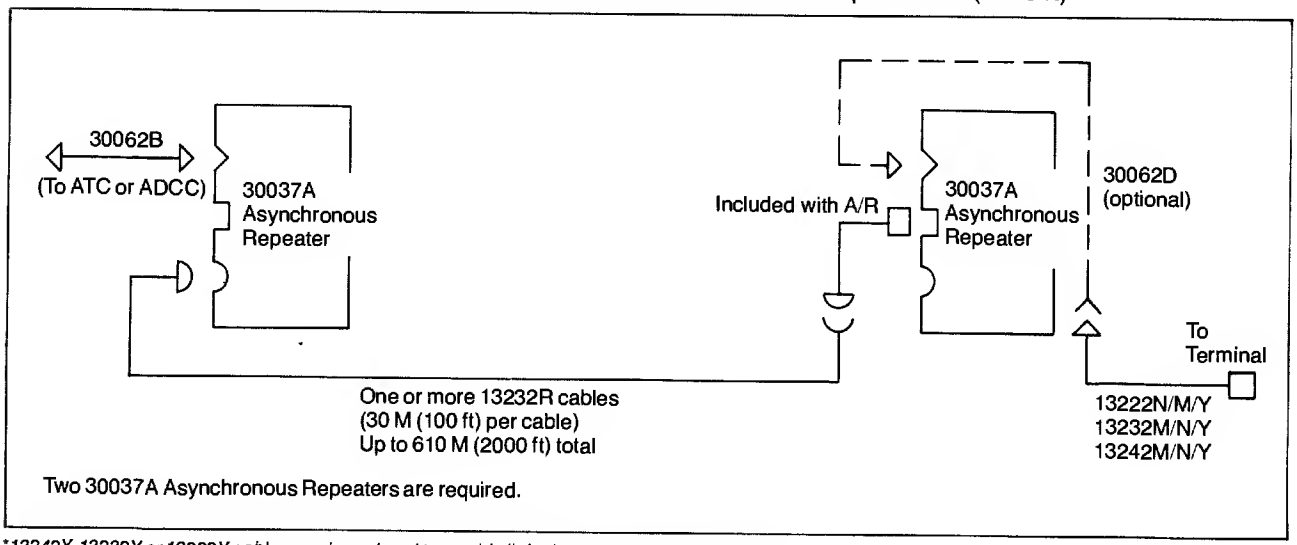
   The maximum data rate is 2400 B.P.S. for 2640 terminals and 9600 B.P.S. for 2645, 2647, 2648, and 262x terminals on HP 3000 Series 3x and Series 44 systems.
2. *Terminals on the HP 3000 normally operate in character mode, except when accessed via Materials Management/3000, HP V/3000, DSG/3000, or MTS/3000 where block mode is employed. Terminals without block mode cannot run Materials Management/3000, HP V/3000, or MTS/3000.*
3. *The full graphics features of the 2647A and 2648A are supported by DSG/3000 software. Without DSG/3000 or user-developed software, these terminals are supported on the HP 3000 as 2645A's.*
4. *Non-standard characters in the International character sets and the display enhancement control characters must be handled by user application programs.*
5. *Voltage available at 50 Hz are: 2621A, 220/240V; 2621P, 230V.*

TERMINAL CABLING DIAGRAMS

Point-To-Point Cable Configurations



Asynchronous Hardwired Terminal Communication up to 610 M (2000 ft)



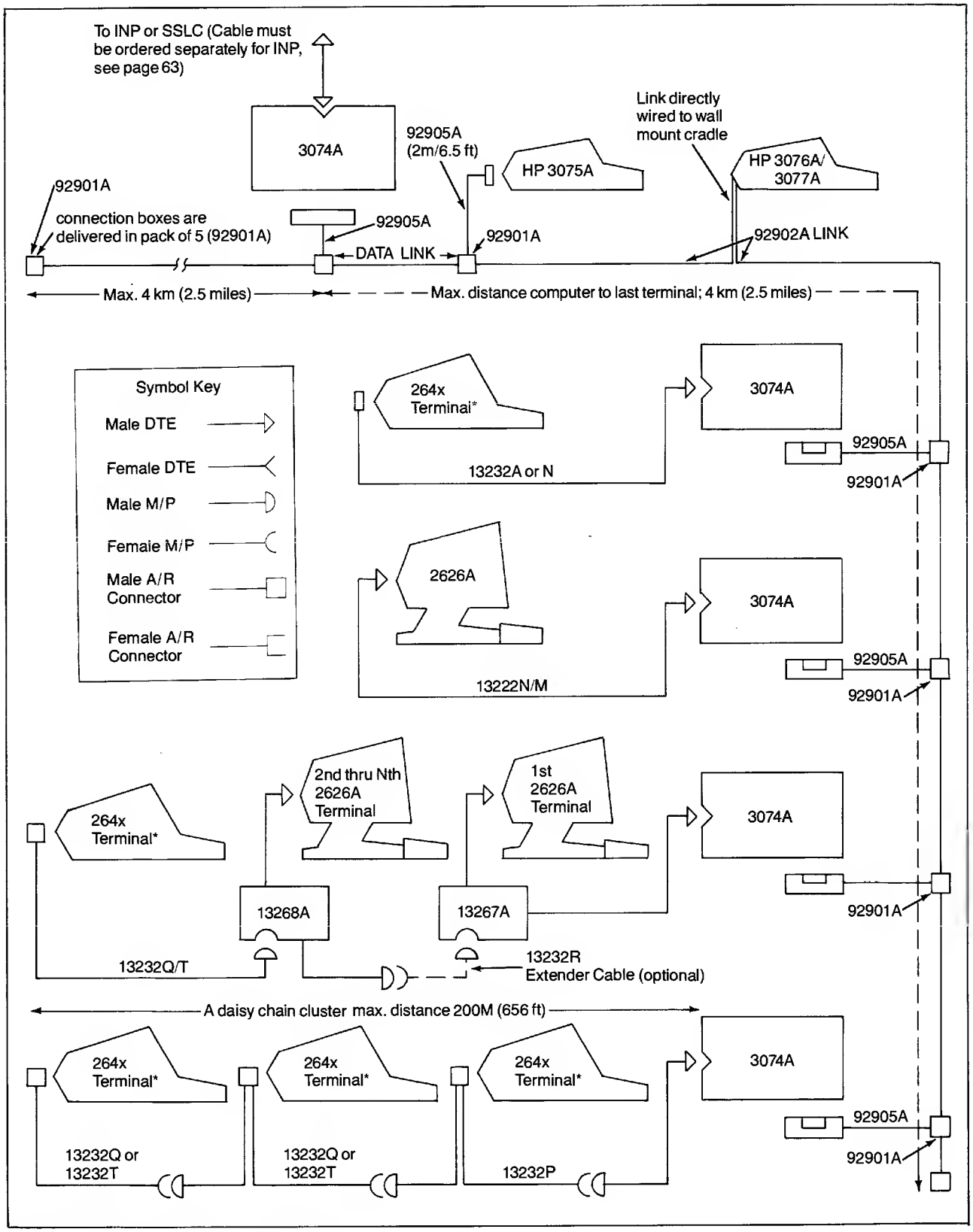
13242Y, 13232Y or 13222Y cables can be ordered to provide lightning protection for terminals in hardwired applications. Do not specify these cables for modems.

†*For use with full duplex modems only.*

**For Port 2 of 2626A only.*

TERMINAL CABLING DIAGRAMS

MTS/3000 Hardwired Data Link (Asynchronous Cable Configurations)



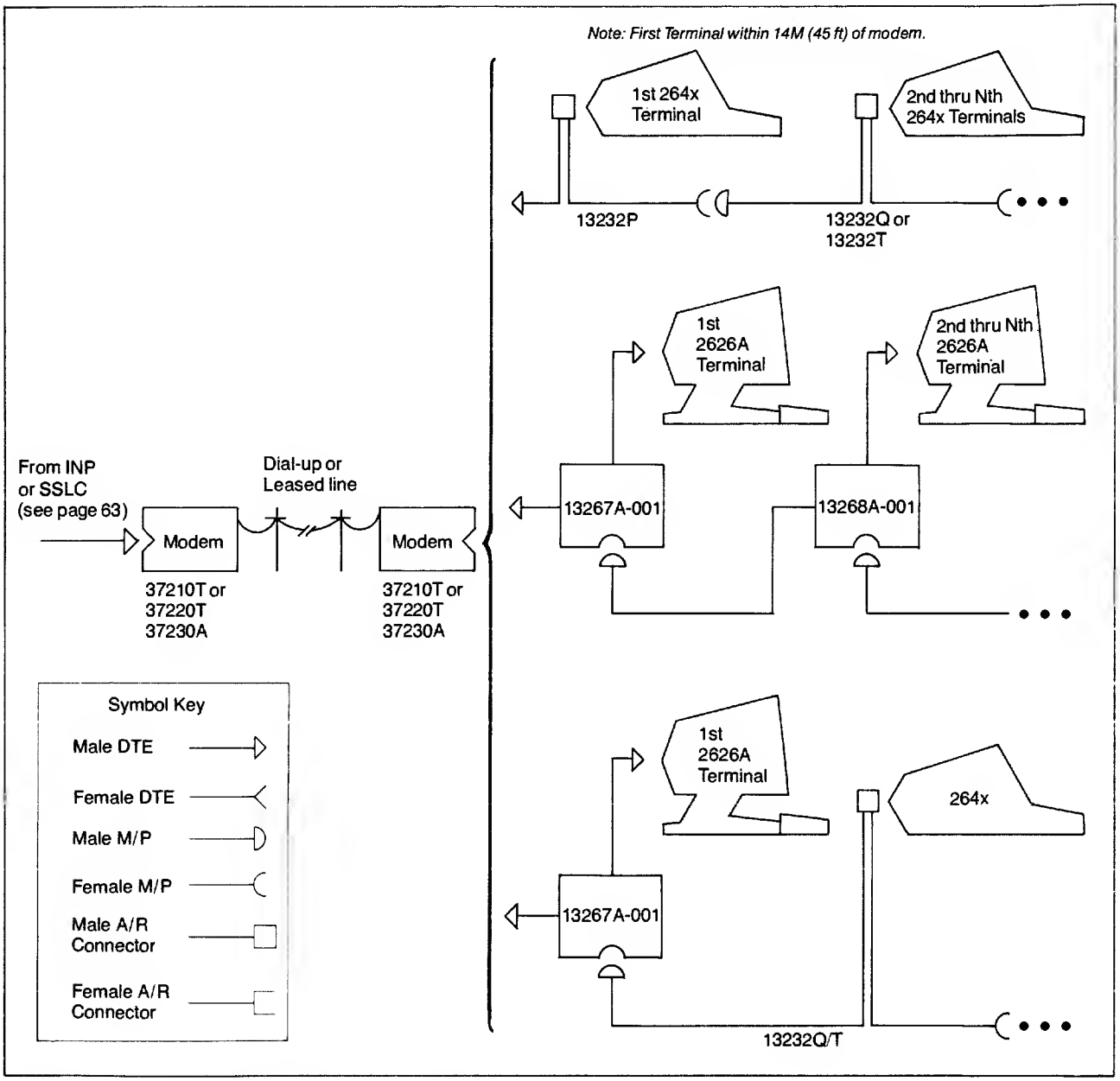
*2640A/B and 2644A are not supported in this configuration.

Note: The 13232T cable provides a terminal power-down re-routing relay. If distance limitations are not exceeded and a terminal using this cable loses power, other terminals in the link will not be affected. The 13232T is recommended, but not required for the last terminal.

Multipoint Terminals may be mixed in any combination on the multipoint line.

Other configurations are shown in the MTS/3000 Reference Manual (32193-90002)

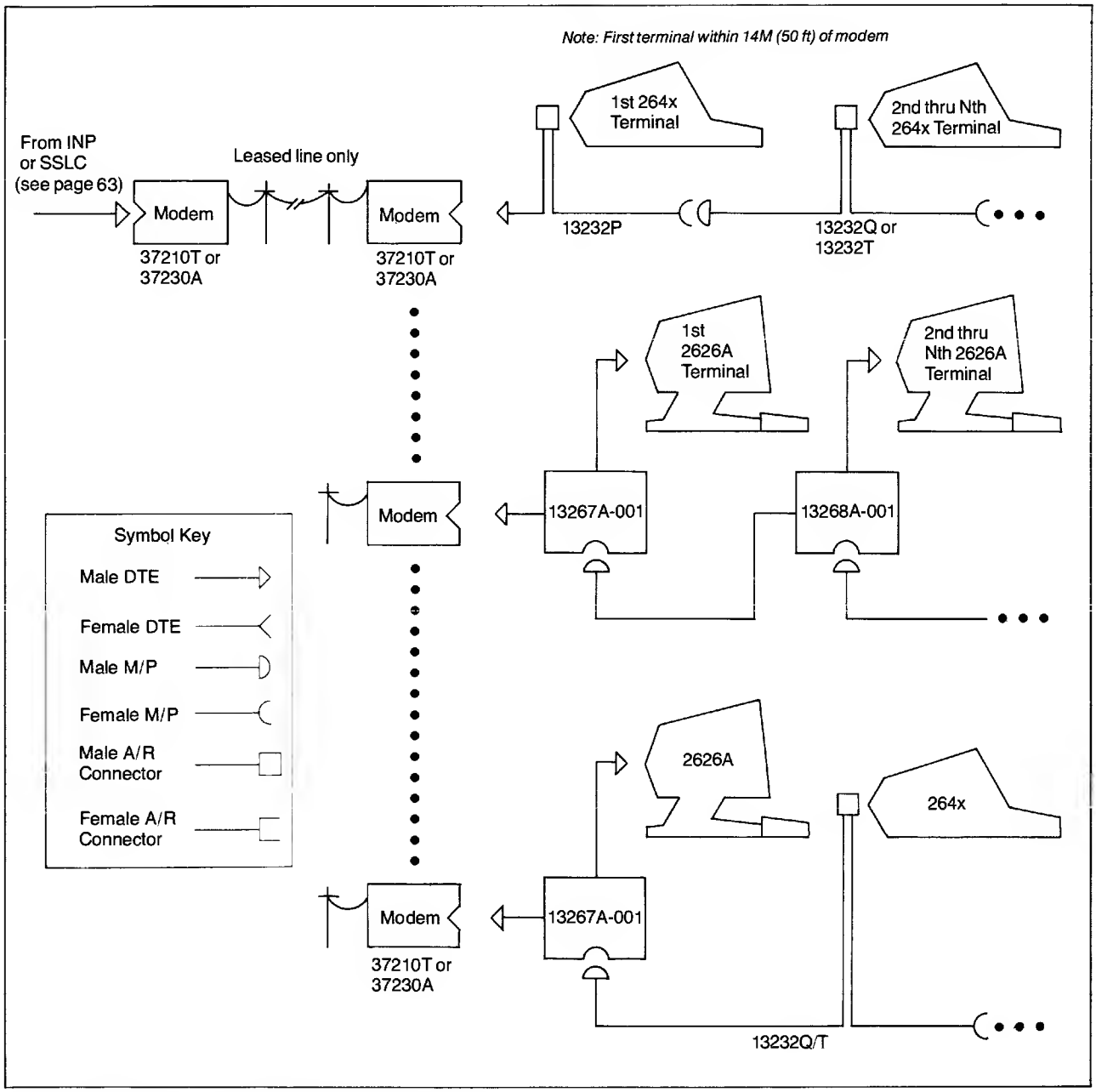
MTS/3000 Modem Connections (Synchronous Daisy Chain)
Single Remote Drop



Note: 307x terminals are not supported by MTS/3000 over modems.
Multipoint Terminals may be mixed in any combination on the multipoint line.

TERMINAL CABLING DIAGRAMS

Multiple Remote Drops



*For a complete list of supported modems, see the specification guide.

Note: All cables must be ordered separately unless otherwise specified.

Note 1: Extension cables may be used between synchronous terminals. The allowable length is a function of line speed. Refer to the MTS/3000 Reference Manual (32193-90002).

Note 2: The 13232T cable provides a terminal power-down re-routing relay. If distance limitations are not exceeded and a terminal using this cable loses power, other terminals in the chain will not be affected. The 13232T is recommended but is not required for the last terminal.

Note 3: 13232R cable may be replaced by a customer; fabricated equivalent up to 610 meters (2000 ft).

Note 4: Additional configuration examples may be found in the MTS/3000 Reference Manual (32193-90002).

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Interactive Display Terminals
		For option availability, see option summary chart, order cables separately.
3x III 44	2621A	Interactive Terminal. 115V, 60 Hz
3x III 44	2621P	Interactive Terminal with Printer. 115V, 60 Hz
	015	230V, 50 Hz operation
	016	115V, 50 Hz operation
3x III 44	2624A	Display Station. 110 Volt, 60 Hz operation
	160	Additional 16K RAM
3x III 44	2626A	Display Station. 110 Volt, 60 Hz operation
262x Terminal Options:		The following options apply to the 2621A, 2621P, 2624A and 2626A
	001	Finnish/Swedish character set and keyboard
	002	Danish/Norwegian character set and keyboard
	003	French character set and keyboard
	004	German character set and keyboard
	005	United Kingdom character set and keyboard
	006	Spanish character set and keyboard
	013	240V/50 Hz operation (except 2621P)
	014	100V/60 Hz operation (except 2621P)
	015	220V/50 Hz operation (except 2621P)
	016	100V/50 Hz operation (except 2621P)
	050	Integral forms copy thermal printer (except 2621A/P)
	201	Math & large character sets (Included with language options of 2626A) (Except 2621A/P)
3x III 44	2640B	Display Terminal (Includes Display Enhancements, Line Drawing Character Set, and 13232A cable)
	005	UK character set
	015	230V. 50 Hz operation
	016	115V, 50 Hz operation

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Interactive Display Terminals (continued)
III	2641A	APL Display Station *Note: APL/3000 is supported only by HP 3000 Series III systems*
3x III 44	2642A	Display Station with Flexible Mini Disc
	005	UK character set
	017	RFI shielding (Standard with European Terminals)
	070	Replace Flexible Mini Disc with dual cartridge tape unit
	072	Second Flexible Mini Disc drive unit
	096	Shared Peripheral Interface
3x III 44	2645A	Display Station
	008	8K Display Memory
	009	12K Display Memory
	015	220V, 50 Hz operation
	061	Device Support Firmware
3x III 44	2647A	Intelligent Graphics Terminal
	001	128 character set adds lower case and displayable control codes.
3x III 44	2648A	Graphics Terminal
3x	2649E	System/maintenance console for Series 30. Cables included.
	015	230V, 50 Hz operation
264x Terminal Options:		**The following options apply to 2641A, 2642A, 2645A, 2647A, and 2648A except as noted.**
	003	Display Enhancements (except 2641A and 2642A)
	004	Display Enhancements with math and large character sets (except 2641A and 2642A)
	007	Integrated dual cartridge tapes (standard on 2647A) (Except 2642A)
	015	230V, 50 Hz (Except 2645A)
	016	115V, 50 Hz (Except 2641A)

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
264x Terminal Options continued		**Interactive Display Terminals (continued)**
	030	Delete standard asynchronous point-to-point communications interface and ROMs. Order 13260C or 13260D product to support multipoint communications (use options 033 and 034 if monitor mode is needed).
	033	Deletes standard communications interface and provides asynchronous multipoint communications capability (includes monitor mode)
	034	Deletes standard communications interface and provides synchronous multipoint communications capability (includes monitor mode) *Note: Options 033 and 034, which include monitor mode, should be ordered on as few terminals as possible because they provide a diagnostic aid which can interfere with normal processing.*
	054	Video output Interface (except 2641A and 2642A)
Terminal Expansion		**Terminal Expansion for 264x Display Terminals**
	13234A	Terminal 4K Memory Module (except 2642A)
	13231A	Display Enhancements—blinking, half bright, underline, and 64 character line drawing (except 2642A)
	201	Add Math Symbols Alternate Character Set
	203	Add Large Alternate Character Set
	13240A	Option Slot Extender. Add 5 slots for 2640B Terminals only *Note: See Terminal Option Summary Chart for complete details.*
		Terminal Cables (262x Series)
3x III 44	13222M	European Modem Cable. Male, 5M (16 ft). For European modem application.
3x III 44	13222N	U.S. Hardwired/Modem Cable. Male, 5M (16 ft). For U.S. hardwired/modem applications.
3x III 44	13222Y	EMP Protect Cable. Male 5M (16 ft). For hardwired applications only. Lightning protection for terminal, three wires (send, receive common) connected. *Note: Order cables at the time of system purchase from your HP Sales Representative on your system order. Order add-on cables by Part No. from HP Customer Supplies Operation.*
3x III 44	13242M	European Modem Cable for Port 2 of 2626A. Male, 25 pin, 5 meters.
3x III 44	13242N	US Modem Cable for Port 2 of 2626A. Male, 25 pin, 5 meters.
3x III 44	13242Y	EMP Protect Cable for hardwired applications of Port 2 of 2626A. Male/Male, 25 pin, 5 meters.

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Terminal Cables (264x Series)
3x III 44	13232A	Terminal Cable. (Name on hood: 103/202 modem cable); connects 2640 series terminals to Bell 103 or 202 modem or to HP 3000 System; 4.5M (15 ft) long with male-to-PC edge connector connectors. Shielded.
3x III 44	13232M	European Modem Cable. For connection of 2640 series terminals to European modems; 4.5M (15 ft) long with male-to-PC edge connector connectors.
3x III 44	13232N	US Modem Cable. Connects 264x series to Bell 103, 202T, or 212 modem or to HP 3000 system; 4.5M (15 ft) long with male-to-PC edge connector connectors.
3x III 44	13232Y	EMP Protect Cable. Male-to-PC edge connector. 4.5M (15 ft). For hardwired applications only. Lightning protection for terminal; three wires (send, receive, common) connected.
		Terminal Extender Cables
3x III 44	30062B	Data Set Cable. Connects HP 3000 Asynchronous RS-232-C port to a Bell 103 or 202S modem 7.6M (25 ft) long with male-to-male RS-232-C connectors.
	001	Replace 7.6M (25 ft) cable with 15M (50 ft) cable
3x III 44	30062C	Hardwire or Modem Extender Cable. 7.6M (25 ft) long with male-to-female RS-232-C connectors. All 25 pins connected end to end.
	001	Replaces 7.6M (25 ft) cable with 15M (50 ft) cable
	002	Replaces 7.6M (25 ft) cable with 30M (100 ft) cable
3x III 44	30062D	Hardwire Extender Cable. Hardwired applications only; 7.6M (25 ft) long with male-to-female RS-232-C connectors; three wires (send, receive, common) connected. *Note: Order cables at the time of system purchase from your HP Sales Representative on your system order. Order add-on cables by Part No. from HP Customer Supplies Operation.*
		Printing Terminals
3x III 44	2635B	Printing Terminal. 180 characters per second. Automatic bidirectional printing, underline and display function modes. 16 channel computed VFC. EIA RS-232-C interface without modem control. (For use with Bell 103 modems or some hardwired applications.) 115 volts. 60 Hz. Includes terminal and 3.8M (12.5 ft) male to male cable. Supported in point-to-point configurations only.
	015	230V, 50 Hz
	715	Add service documentation
		Additional Products:
	26090A	Sound abatement cover for 2631B or 2635B
	26097A	Stand for 2631B or 2635B (includes casters)
	002	Add paper catcher

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Printing Terminals (continued)
3x III 44	2675A	Thermal Printing Terminal with Dual Cartridge Tape Unit. 120 characters per second bidirectional printing, auto answer, autodial, I/O line editor. For use with hardwired or full duplex asynchronous modems. Supported in point-to-point configuration only. Must order option 301, 302, or 303.
	001	Finnish/Swedish keyboard
	002	Danish/Norwegian keyboard
	003	French keyboard
	004	German keyboard
	005	United Kingdom keyboard
	006	Spanish keyboard
	015	230V/50 Hz operation
	026	300 bits per second modem
	070	Deletes cartridge tapes
	301	U.S. Modem cable (5M)
	302	European modem cable (5M)
	303	RS-232-C Hardwired cable (2M)
	13269A	2675A Carrying Case
		Factory Data Collection Terminals Order cables separately
3x III 44	3075A	Desk top Data Capture Terminal. See description and options below.
3x III 44	3076A	Wall Mounted Data Capture Terminal. See description and options below. Also includes cradle. Built-in relay.
	020	Delete Wall Mount Unit.

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Factory Data Collection Terminals (continued) Order cables separately
3075/76 Options:		**The following description and options apply to 3075A and 3076A.** 15 position numeric display, protected display field, 17 user-defined prompting lights and 10 special function keys. A maximum of two options per terminal from options 007, 008, 009, 010, 012, 013 may be ordered. Supported in point-to-point or asynchronous hardwired multipoint configurations.
	004	Alphanumeric keyboard includes all keys on standard numeric keyboard, plus 26 alpha keys and one shift key. Alpha keys can be used as special function keys with the use of the shift key.
	005	Alphanumeric display provides 24 position display with 64 upper case ASCII characters.
	006	5 inch CRT.
	007	Multifunction reader. Reads punched plastic badges (industry type III), 80 column punched cards and optical mark forms.
	008	Type V badge reader. Reads non-embossed punched plastic badges with or without clip.
	009	Alphanumeric printer. 40 line per minute thermal printing on 4.7 cm (2.25 in) wide paper roll.
	010	Low cost bar code reader. Reads Industrial 2 out of 5, Matrix 2 out of 5, and code 39 coded labels.
	012	Magnetic Stripe Reader. Reads documents and plastic badges encoded to ISO standard 3554 or IMB 3630 format.
	013	RS-232-C Interface. Allows connection of devices compatible with RS-232-C or CCITT V.24/28 Asynchronous interface specifications.
	015	220/240V operation
3x III 44	3077A	Time Reporting Terminal. Large time display and Type V badge reader are standard. Wall mounted unit with built in relay to control external devices. Supported in point-to-point or asynchronous hardwired multipoint configurations.
	001	Multifunction Reader replaces Type V badge reader. Reads punched plastic badges (industry Type III), 80 column punched cards and optical mark forms.
	002	Replace Type V Reader with Magnetic Stripe Reader.
	005	Alphanumeric Display provides 24 position display with 64 upper case ASCII characters.
	015	220/240V operation.
	020	Delete Wall Mount Unit.

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Factory Data Collection Terminals (continued)
3x III 44	7260A	Optical Mark Reader. Buffered serial output data; switchable baud rate; RS-232-C compatible; up to 300 cards per minute. Includes reader, operating manual, card weight, dust cover, 2.3M (7.5 ft) interface and power cables. 115V, 60 Hz operation. Use of the 7260A on HP 3000 systems is in conjunction with an HP supported terminal.
	002	Select Hopper. Separate Hopper for storing cards selected under computer control.
	003	Encoder. Allows reading of Standard 80 and 40 column punched cards and 40 column marked cards without clock marks. Rear panel switch allows selection of reading cards with or without clock marks. Note: 7260A can be used to input punched cards to the HP 3000 only on a light duty basis. It is not a general purpose punched card reader.
	004	Bell. Audible event indicator activated under computer control
	005	200/240V AC power operation
	006	50 Hz operation
	007	Wider input hopper for turn-around document.
	300	Adds operating documentation for HP 3000.
		Multipoint Terminal Communications Products
3x III 44	32193A/R	MTS/3000 Software (one per system)
System Hardware Interface		System Hardware Interface (one per link)
3x 44	30020A	Intelligent Network Processor (must order the appropriate cable see page 63)
III	30010A	Intelligent Network Processor (must order the appropriate cable see page 63)
	001	Provides new I/O card cage backplane for systems that were upgraded from pre-Series II systems
III	30055A	Synchronous Single Line Controller (SSLC). Includes Synchronous Cable (30055-60011). Length 7.6M (25 ft)
	001	Replaces standard synchronous cable with asynchronous cable (30055-60010) for hardwired asynchronous operation. Length 7.6M (25 ft).

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Multipoint Terminal Communications Products (continued)
Multipoint Interfaces		Multipoint Interfaces for 2641A, 2642A, 2645x, 2647A and 2648A Terminals
3x III 44	13260C	Asynchronous Multipoint Communications Interface. For daisy chained line sharing. Option 030 must be ordered with each terminal to delete the standard asynchronous interface.
3x III 44	13260D	Synchronous Multipoint Communications Interface. For daisy chained line sharing. Option 030 must be ordered with each terminal to delete the standard asynchronous interface.
Multipoint Interfaces		Multipoint Interfaces for 262x Terminals
3x III 44	13267A	Asynchronous multipoint interface for 1st daisy chained 2626A terminal
	001	Synchronous interface
3x III 44	13268A	Asynchronous multipoint interface for 2nd to NTH daisy chained 2626A terminal
	001	Synchronous interface
HP Data Link Cabling		HP Data Link Cabling
3x III 44	3074A	Data Link Adapter. Required to convert RS-232-C interface to data link interface. Can also be used to connect 264X or 2626A multipoint terminal to data link.
3x III 44	92901A	Data Link Connector. For use with hardwired data link configurations. 5 data link connector boxes per set.
3x III 44	92902A	Shielded twisted pair cable. Must order option 001 or 002
	001	100M (328 ft)
	002	300M (984 ft)
3x III 44	92905A	Device to Data Link Cable. To connect 3074A Data Link Adapters in a hardwired data link configuration. 2M/6.5 ft)

TERMINAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Multipoint Terminal Communications Products
Daisy Chain Cabling		Daisy Chain Cabling
3x III 44	13232P	Modem Multipoint Cable. Each leg 4.5M (15 ft)
3x III 44	13232Q	Multipoint Cable. Each leg 4.5M (15 ft)
3x III 44	13232R	Multipoint Extension Cable. Female/Male, 30M (100 ft).
3x III 44	13232T	Power Protect Multipoint Cable. Each leg 4.5M (15 ft)
3x III 44	13232U	Modem Bypass Cable. 1.5M (5 ft)
		Modems and Line Drivers
30 III 44	37210T*	4800 BPS Modem. Automatically equalized 4800 bits/sec synchronous modem. Will operate over leased or dial-up circuits, and can operate in point-to-point or multi-drop configurations. Compatible with CCITT recommendation V.27 bis.
	001	PTT Isolation Module (For European use)
	002	Dial Line Isolation (For European use)
	003	Auto Answer (USA)
	004	Secondary Channel
	005	Remote Command
	010	Installation (USA)
30 III 44	37220T*	9600 BPS Modem. Automatically equalized 9600 bits/sec synchronous modem. Operates on four wire point-to-point leased telephone circuits. Requires D1 conditioned line.
3x III 44	37230A*	Short Haul Modem. Enables RS-232-C or V.24 communication at synchronous data rates of 2400 bps, 4800 bps, 9600 bps, and 19.2 Kbps at distances up to 22 miles
	301	Rackmount Adapter
	302	Dual Rackmount
3x III 44	13265A*	300 Bit Per Second Modem for 262x terminals
3x III 44	30037A	Asynchronous Repeater (AR). Extends RS-232-C interface link to 2000 ft. Also converts RS-232-C communication signal levels to be compatible with the HP family of terminals which operate in asynchronous multipoint communication mode (e.g., 2641A, 2645A, 2647A, 2648A). Includes adapter cable.
	015	230V operation

Note: May not be available in all areas outside of USA. Consult your local HP Sales Representative for availability.

HP 3000 Graphics and Terminal Printer Products

DSG/3000 Graphics Workstation Ordering Information ■ Graphics Workstation Configuration Diagrams ■ Terminal Printer Products Ordering Information ■ Terminal Printer Configurations

HP DSG/3000 GRAPHICS WORKSTATIONS

A DSG/3000 Graphics Workstation requires three products that are ordered separately:

1) a graphics terminal,
2) a graphics plotter or printer/plotter, and
3) one copy of Decision Support Graphics/3000 (HP DSG/3000) software.

The table below indicates which graphics terminals, plotters, and printer/plotters may be used in HP DSG/3000 Graphics Workstations:

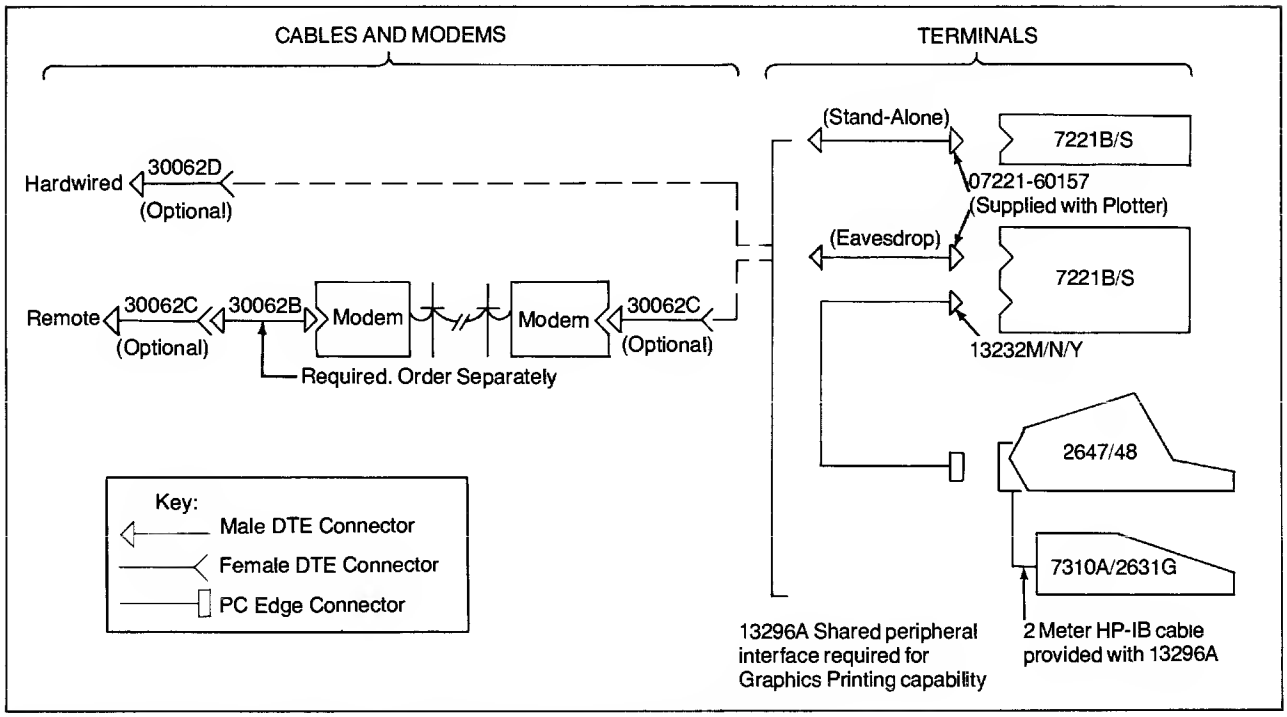
Graphics Terminals	Plotters and Printer/Plotters
2647A 2648A	7221B/S 7225A 7245B 9872B/S

HP DSG/3000 GRAPHICS WORKSTATION ORDERING INFORMATION

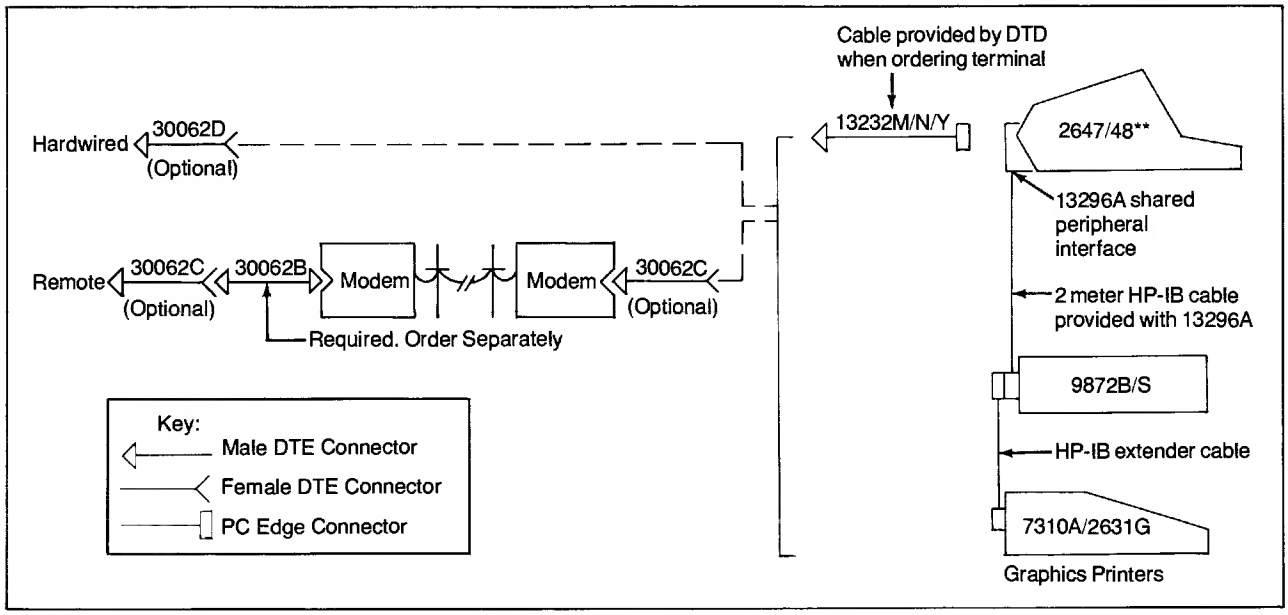
AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
Graphics Terminals		
		For option availability, see option summary chart page 38. Order cables separately, page 47. For graphics display copy capability from 2647/48A, see Terminal Printer Products.
3x III 44	2648A	Graphics Terminal
3x III 44	2647A	Intelligent Graphics Terminal
Graphics Hard Copy Products		
3x III 44	7221B	RS-232-C Multicolor Graphics Plotter, provides high-resolution vector plotting. Automatic pen changing, 11 X 17 in. (280 X 437 mm) max paper size, paper or overhead transparencies. Used with HP3000 in "eavesdrop" or standalone configuration.
	001	Expanded Buffer Memory
3x III 44	7221S	RS-232-C Multicolor Graphics Plotter provides 7221B features plus automatic paper advance for unattended operation.
	001	Expanded Buffer Memory
3x III 44	7225A	Graphics Plotter. 7225A must be ordered with 17601A or 17604A Personality Module for I/O capability. 8 X 11½ inch (203 X 292 mm) max paper size, easy manual pen changing, paper or overhead slides.
	003	Specifies 220V, 50 Hz single phase operation
	17601A	HP-IB Personality Module for 7225A. Interfaced to 2647A or 2648A terminal. Must order option 001 (listed below).
	001	Provides proper documentation.
	17604A	RS-232-C Personality Module for 7225A. Used with HP3000 in either "eavesdrop" or standalone configuration.
3x III 44	7245B	HP-IB Plotter/Printer. Thermal high resolution vector plotting and 38 cps printing. Interfaced to 2647A/48A graphics terminal.
3x III 44	9872B/S	HP-IB Multicolor Graphics Plotters. Offers features of 7221B/S Graphics Plotters. Interfaced to 2647A or 2648A Graphics Terminals.

HP DSG/3000 GRAPHICS WORKSTATION CONFIGURATIONS DIAGRAMS

Recommended configuration for DSG/3000



Note: Supported on HP 3000 Series III (ATC), HP 3000 Series 3x or 44. (ADCC). Set data rate, parity and full/half duplex switches on plotter to match terminal environment. If HP 3000 port is configured as a modem port, put "modem/hardwired" switch in modem position. 7221B/S do not support multipoint communications. For the 7221B/S and 7225A, the maximum baud rate is 2400 bits per second.



Note: Supported on HP 3000 Series III (ATC), HP 3000 Series 3x or 44 (ADCC). 7245B or 7225A/ 17601A could be used instead of 9872B/S in above configuration. Because 2647A/48A are handling extensive handshaking and data communication operations between the RS-232-C and (HP-IB) shared peripheral interfaces, vector plotters operate at approximately 60% of full plotting speed in this configuration. Full 2647A BASIC/Multiplot capability can utilize graphics plotter and graphics printing peripherals.

**13232Y or 13222Y cables can be ordered to provide lightning protection for terminals in hardwired applications. Do not specify these cables for modems.*

***The 2648A supports only one of the two devices shown at a time. Requires 13261A device support firmware or integrated tapes.*

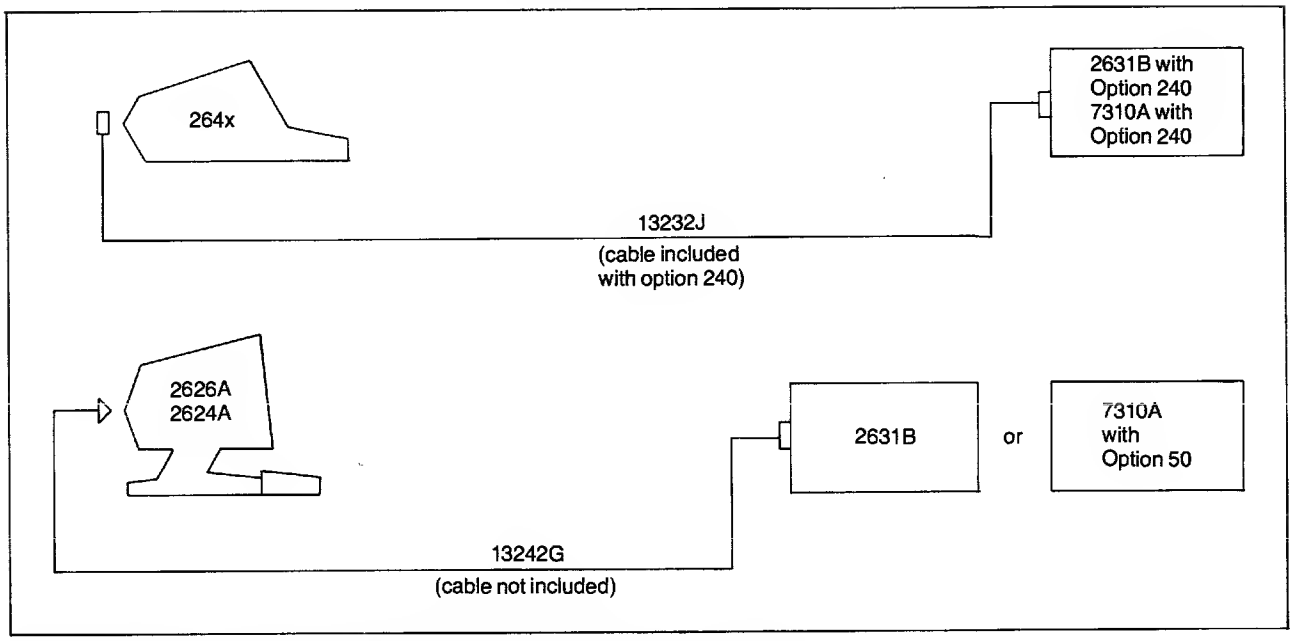
TERMINAL PRINTER PRODUCTS ORDERING INFORMATION

This ordering information is for HP printers attached to HP terminals as slave devices: HP 2631B, 2631G, 7310A, 2601A.

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
	2631B	180 cps dot matrix impact printer. Order Option 240, for use with 264x terminals. For use with 262x terminals, order the standard 2631B and 13242G interface cable (connect to Port 2 only). When used as a local/remote spooled printer, the 2631B attaches directly to a port on the ATC (Series III) or ADCC (Series 3x or 44), not to a terminal. For these configurations, different options apply, see page 31.
	015	230V, 50 Hz single phase operation.
	240	Provides 13238A duplex register interface board for 264x alphanumerics terminals and 13232J interface cable.
	2631G*	Graphics Printer. 180 cps impact alphanumeric and graphics printer. Used with HP 2647/48A Graphics Terminals. *Note: Must order option 096 (13296A) shared peripheral interface on 2647A/48A graphics terminal. Integrated tapes (Option 007) or 13261A device support firmware must be ordered with 2648A. 13296A comes with 2 meter cable.*
	7310A*	Text, Forms, and Graphics Printer. 200-500 lines per minute thermal printer. Standard HP-IB interface provided for use with 2647/48A Graphics Terminals. Order Option 240, for use with HP 264x alphanumerics terminals. Order Option 050, for use with HP 2626A and 2624A terminals.
	011	Line drawing (forms) character set.
	015	Specifies 220V, 50 Hz single phase operation.
	050	Replaces standard interface with serial interface. *Note: Interfacing cable not includad. Order 13242G cable with terminal. Connect to Port 2.*
	240	Provides 13238A duplex register interfacing board for 264x terminal, 13232J cable, and 8-bit duplex register interface in 7310A. *Note for 2647/48A users: Requires option 096 (13296A) shared peripheral interface in 2647/48A. 13261A device support firmware or integrated tapes required in 2648A. 13296A comes with 2 meter cabla.* **Note: 2631G and 7310A are not supported by HP-DSG/3000. These graphic printers provide display copies from HP 2647/48A Graphics Terminals.*
3x III 44	2601A	Daisy-Wheel Printer. Order 13232G cable for attachment to 2642A, 2645A, 2647A terminals; order 13242G cable for attachment to 2626A or 2624A terminals (connect to Port 2.) To connect a 2601A directly to an HP 3000 ATC (Series III) or ADCC (Series 3x or 44), see page 31.
	015	Specifies 220V/49-61 Hz operation
	016	Specifies 100V/49-61 Hz operation
	017	Specifies 240V/49-61 Hz operation

TERMINAL PRINTER CONFIGURATIONS

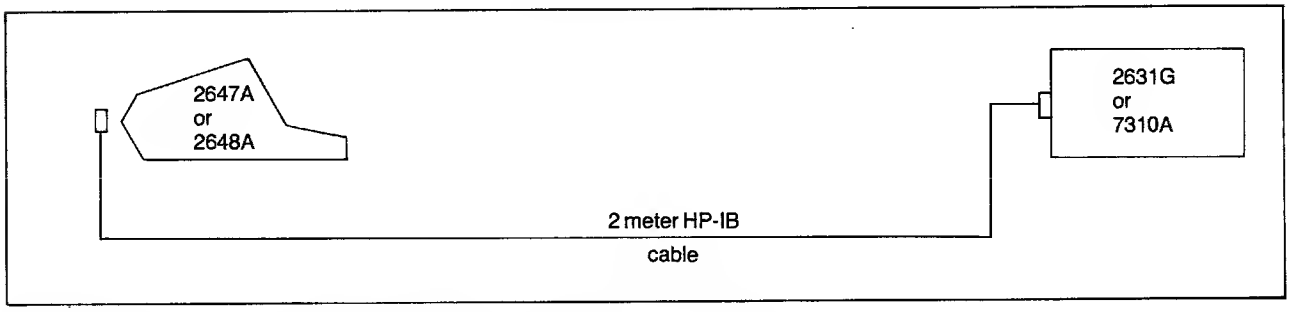
Alphanumeric Terminals



Note: Option 240 for 2631B or 7310A provides 13238A duplex register interfacing board for 264x terminal, 13232J cable, and substitutes 8-bit parallel interface for standard 2631B/7310A interface.

Note: Printer interfaced to 262x terminal port 2.

Graphics Terminals*



Note: Order option 096 (13296A) shared peripheral interface in 2647/48A. 13296A comes with 2 meter cable.

**2631G and 7310A are not supported by HP-DSG/3000. These graphics printers provide display copies from 2647/48A Graphics Terminals.*

HP 3000 System Communication Products

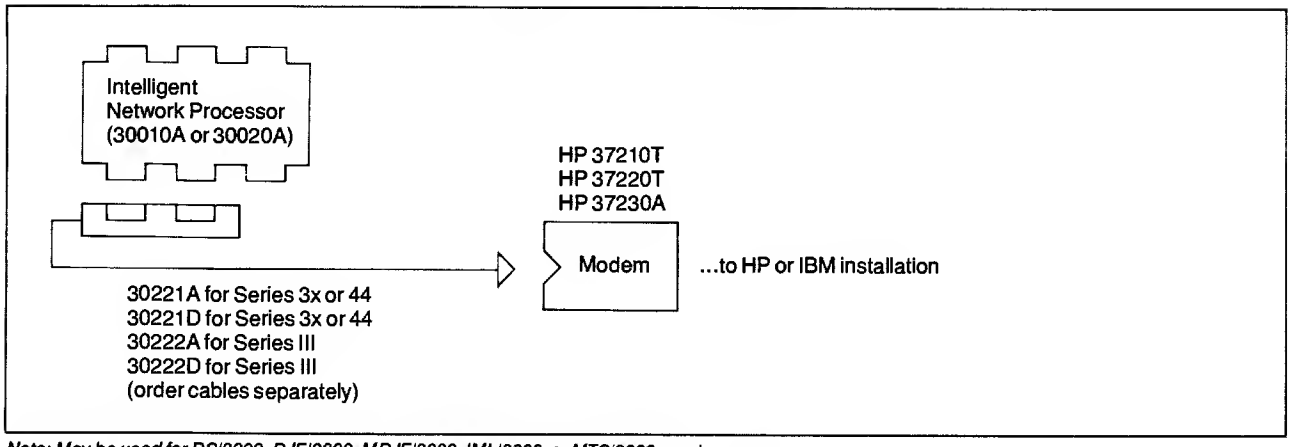
Support Matrix ■ Cabling Diagrams ■ Ordering Information

SYSTEMS COMMUNICATIONS SUPPORT MATRIX

SYSTEM	SOFTWARE SUBSYSTEM	REQUIRED INTERFACE	MAXIMUM DATA RATE
3x	Distributed Systems DS/3000 (32190A/R)	INP (30020A)	56,000 bps
	Multileaving Remote Job Entry MRJE/3000 (32192A/R)	INP (30020A)	9,600 bps
	Remote Job Entry RJE/3000 (30130E/R)	INP (30020A)	19,200 bps
	Interactive Mainframe Link IML/3000 (32229A/R)	INP (30020A)	9,600 bps
III	Distributed Systems DS/3000 (32190A/R)	INP (30010A) or SSLC (30055A) or HSI (30360A)	56,000 bps—INP 9,600 bps—SSLC 2.5M bps—HSI (less than 1000') 1.25 Mbps—HSI (1000' to 2000')
	Multileaving Remote Job Entry MRJE/3000 (32192A/R)	INP (30010A) or SSLC (30055A)	9,600 bps
	Remote Job Entry RJE/3000 (30130E/R)	INP (30010A) or SSLC (30055A)	19,200 bps—INP 9,600 bps—SSLC
	Interactive Mainframe Link IML/3000 (32229A/R)	INP (30010A)	9,600 bps
44	Distributed Systems DS/3000 (32190A/R)	INP (30020A)	56,000 bps
	Multileaving Remote Job Entry MRJE/3000 (32192A/R)	INP (30020A)	9,600 bps
	Remote Job Entry RJE/3000 (30130E/R)	INP (30020A)	19,200 bps
	Interactive Mainframe Link IML/3000 (32229A/R)	INP (30020A)	9,600 bps

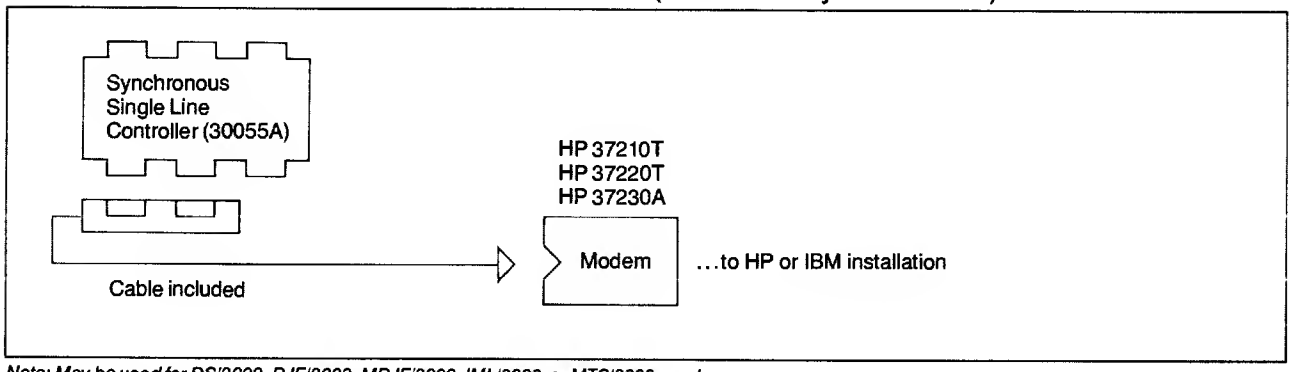
COMMUNICATIONS CABLING DIAGRAMS

INP Modem Connection



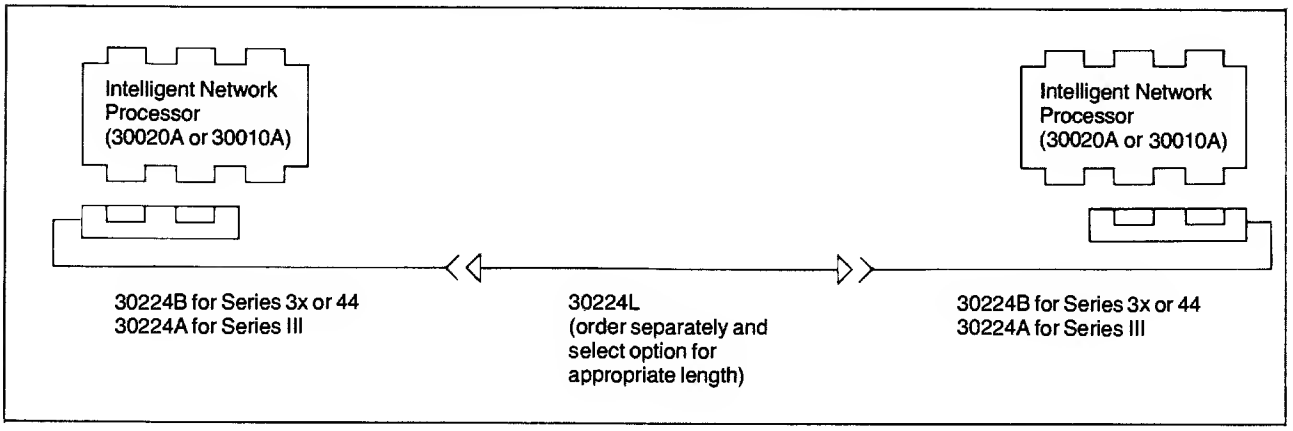
Note: May be used for DS/3000, RJE/3000, MRJE/3000, IML/3000, or MTS/3000 synchronous modem communication.

SSLC Modem Connection (Available only on Series III)



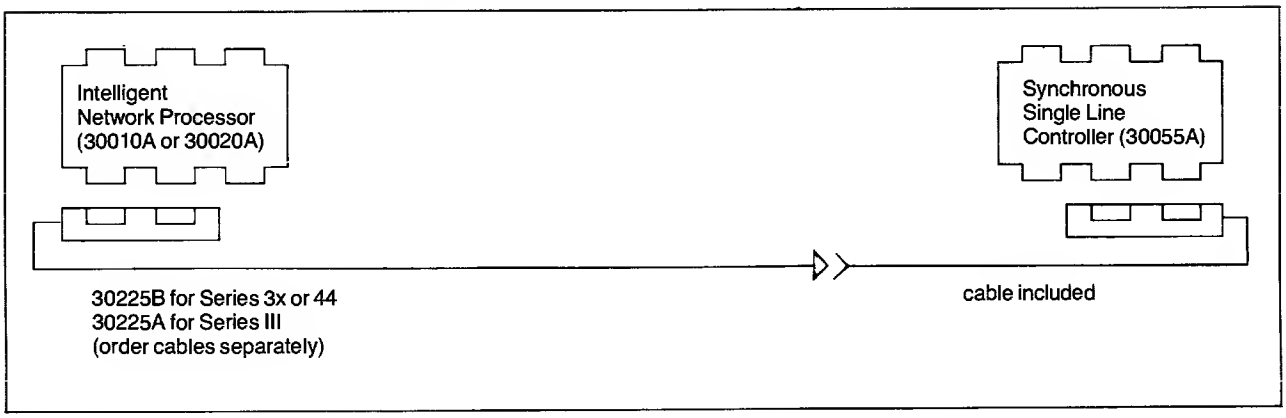
Note: May be used for DS/3000, RJE/3000, MRJE/3000, IML/3000, or MTS/3000 synchronous modem communication.

DS/3000 INP-INP Direct Connection

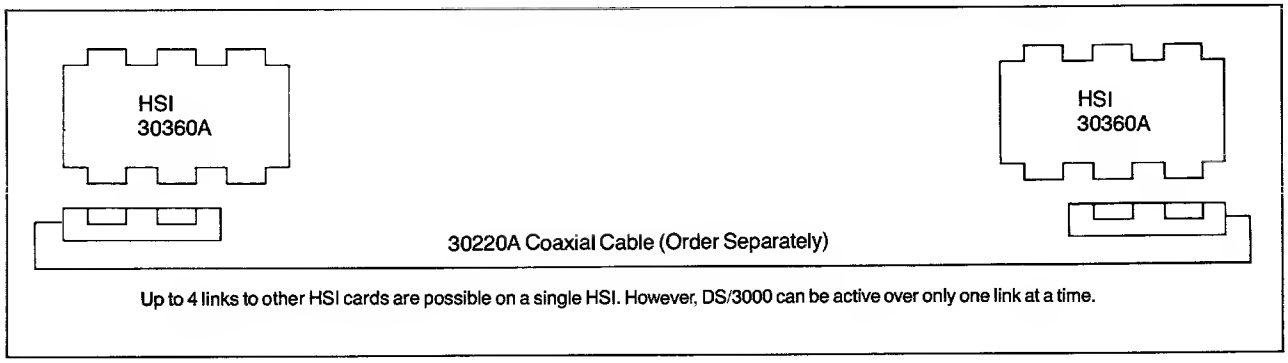


COMMUNICATIONS CABLING DIAGRAMS

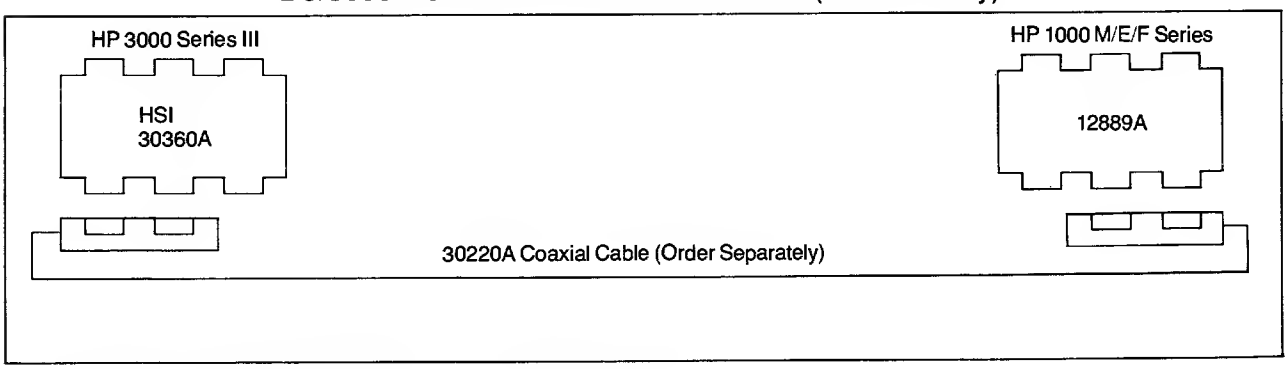
DS/3000 INP-SSLC Direct Connection



DS/3000 HSI-HSI Hardwired Connection (Available only on Series III)



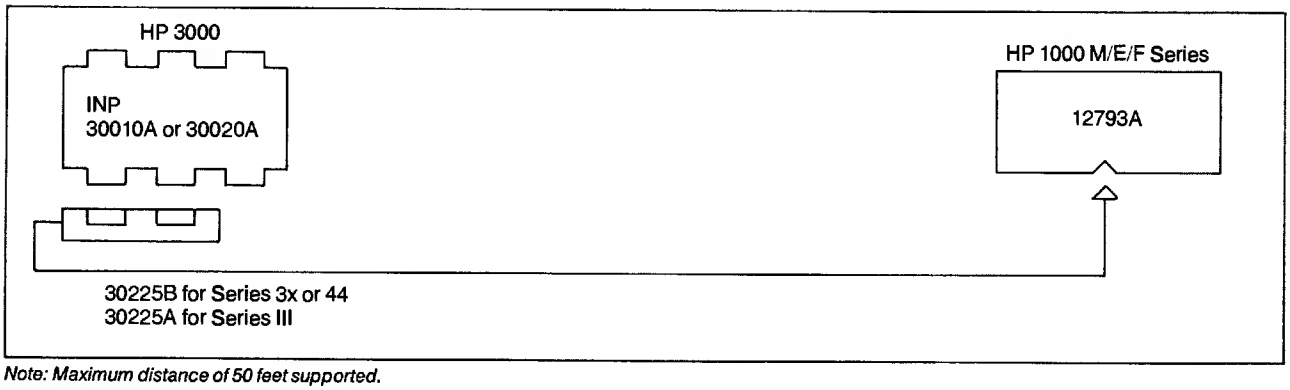
DS/3000-DS/1000 Hardwired Connection (Series III only)



Note: Coaxial Cable (30220A) available in lengths from 7.6m (25 ft) to 609.6m (2000 ft)

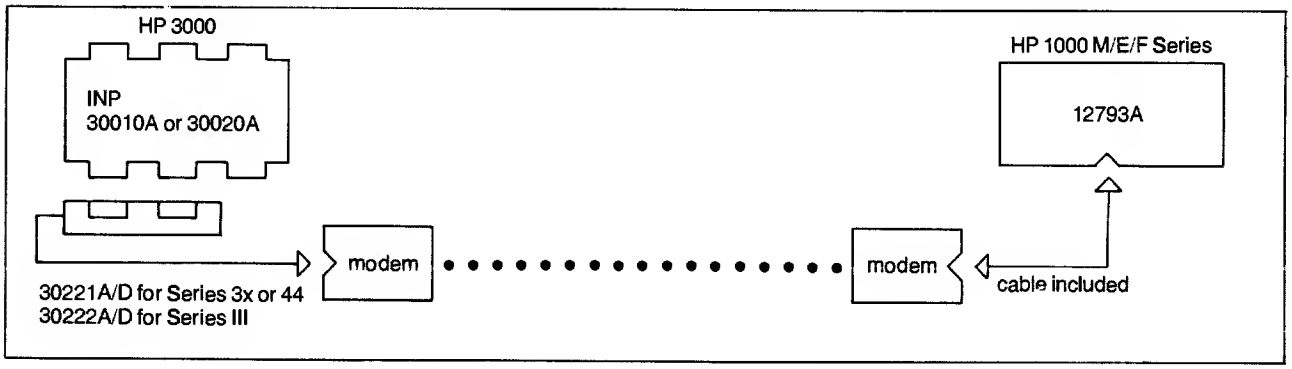
COMMUNICATIONS CABLING DIAGRAMS

DS/3000-DS/1000 Hardwired Connection

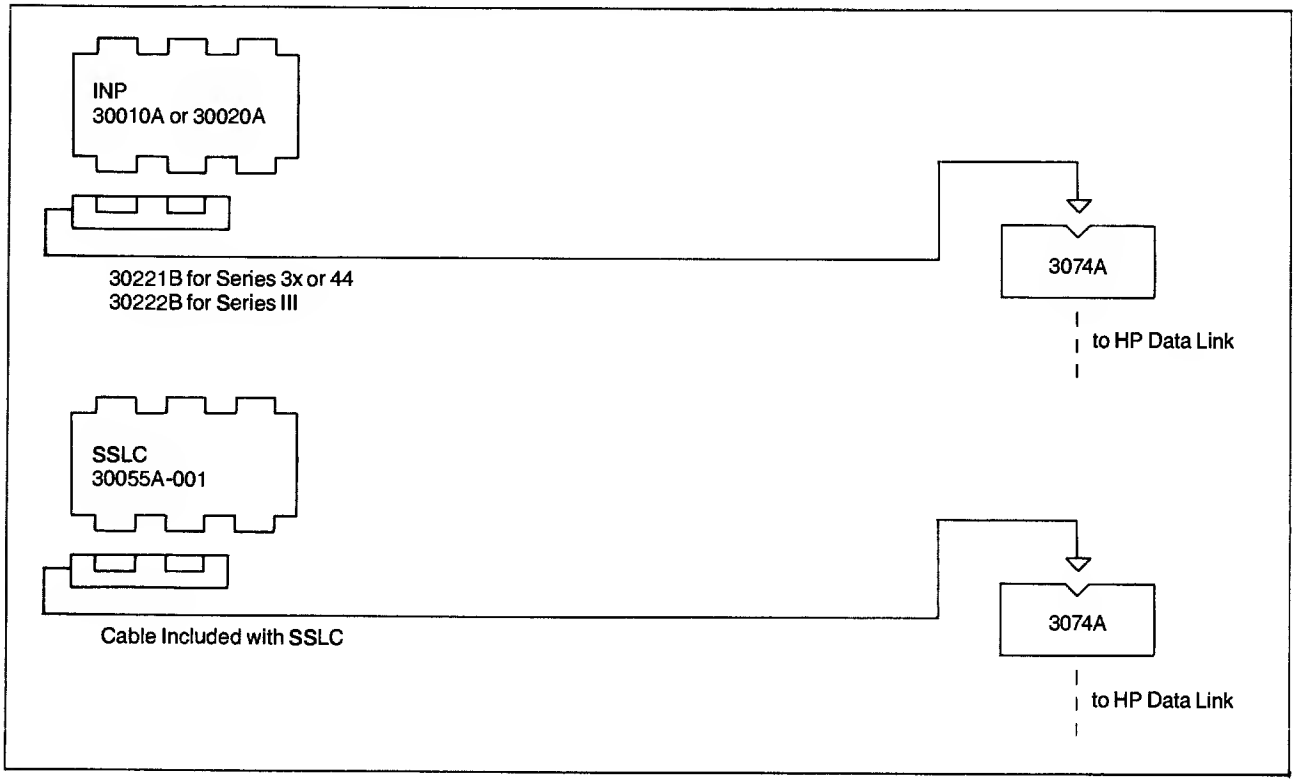


Note: Maximum distance of 50 feet supported.

DS/3000-DS/1000 Modem Connection



MTS/3000 Asynchronous Hardwired Connections



SYSTEMS COMMUNICATIONS ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Hardware Interfaces
III	30010A	Intelligent Network Processor (INP). For use on Series III systems. Provides serial interface for modem or hardwired links. Offloads data communication protocol handling from CPU. For those systems which have upgraded from a pre-Series II system, option 001 is required with the first INP. Requires a modem or hardwired interface cable (See INP Cables).
	001	Provides new I/O card cage backplane for systems that were upgraded from pre-Series II systems.
3x 44	30020A	Intelligent Network Processor (INP). For use on Series 3x or Series 44 systems. Provides serial interface for modem or hardwired links. Offloads data communication protocol handling from CPU. One INP modem or hardwired interface cable must be ordered separately (See INP Cables).
III	30055A	Synchronous Single Line Controller (SSLC). For modem links or hardwired SSLC-INP links. Cable included. Length 7.6M (25 ft).
	001	Replaces modem cable with cable to run MTS/3000 in hardwired asynchronous mode. Length 7.6M (25 ft).
III	30360A	Hardwired Serial Interface (HSI). For coaxial links. A 30220A cable is required for each pair of hardwired serial interfaces.
		INP Cables
Series 3x/44 Cables		
3x 44	30221A	Synchronous Modem Cable (RS-232-C). For use with a modem operating up to 19.2 Kbps on a Series 3x or Series 44 INP modem link. Length 10M (33 ft).
3x 44	30221B	Asynchronous Cable (RS-232-C). For use with asynchronous multipoint installations on Series 3x or 44. Length 10M (33 ft).
3x 44	30221D**	High Speed Synchronous Modem Cable (CCITT V.35). For use with a modem operating above 19.2 Kbps on a Series 3x or Series 44 INP modem link. Length 10M (33 ft).*
3x 44	30225B	INP-to-SSLC Direct-Connect Cable. For use with Series 3x or Series 44 INP. Length 15M (49 ft).
Series III Cables		
III	30222A	Synchronous Modem Cable (RS-232-C). For use with a modem operating up to 19.2 Kbps on a Series III INP modem link. Length 10M (33 ft).

**May not be available in all areas outside USA. Consult your local HP Sales Representative for availability.*
***Built to order.*

SYSTEMS COMMUNICATIONS ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
Series III Cables (continued)		**INP Cables (continued)**
III	30222B	Asynchronous Cable (RS-232-C). For use with asynchronous multipoint installations on Series III systems. Length 10M (33 ft).
III	30222D**	High Speed Synchronous Modem Cable (CCITT V.35). For use wth a modem operating above 19.2 Kbs on a Series III INP modem link. Length 10M (33 ft).*
III	30225A	INP-to-SSLC Direct-Connect Cable. For use with Series III INP. Length 15M (49 ft).
INP to INP Cables		
III	30224A	INP-to-INP Direct-Connect Cable. Required to interface 30224L External Interconnect Cable to Series III systems.
3x 44	30224B	INP-to-INP Direct-Connect Cable. Required to interface 30224L External Interconnect Cable to Series 3x or Series 44 systems.
3x III 44	30224L	External Interconnect Cable. Required to hardwire interconnect HP 3000 systems using INPs. A 30224A and/or a 30224B must be used to interconnect each end of the 30224L on an HP 3000 system. Length 10M (33 ft).
	001	25M (82 ft).
	002	50M (164 ft)
	003**	100M (328 ft)
	004**	250M (820 ft)
	005**	500M (1,640 ft)
	006**	1,000M (3,281 ft)
		HSI Cables (Series III only)
III	30220A	Coaxial Cable. For Hardwired Serial Interface. Length 7.62M (25 ft)
	001	30M (100 ft)
	002	76M (250 ft)
	003	152M (500 ft)
	004	305M (1,000 ft)
	005	610M (2,000 ft)

Note: may not be available in all areas of USA. Consult your local HP Sales Representative for availability.

***Built to order.*

HP 3000 Software, Manuals, and Training

Software Products ■ Software Ordering Information ■ Software Support Software Support Ordering Information ■ Manuals and Documentation Manual Ordering Information ■ Software Ordering Examples ■ Training and Consulting Ordering Information

SOFTWARE PRODUCTS

Fundamental Operating Software

Standard on each HP 3000 system is the Fundamental Operating Software which includes:

- Multiprogramming Executive (MPE) Operating system
- Data base management system (IMAGE/3000)
- Data base inquiry language (QUERY/3000)
- Forms management software (HP V/3000)
- Keyed Sequential Access Method Software (KSAM/3000)
- Text editor (EDIT/3000)
- File copying utility (FCOPY/3000)
- Sort and merge package (SORT-MERGE/3000)
- Facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000).

Additional Software Products

Software subsystems not included with the system, such as compilers, data communications software, or business applications software, are available as add-on products.

Software products are denoted by a five-digit product number followed by an alphabetic character. This alphabetical suffix indicates the version level of the product. Support services related to the product are ordered separately and are specified by the same five-digit number and a different suffix.

Purchase of a software product entitles a customer to use that product on one HP 3000 computer system with no time limit. The standard software product is ordered with suffixes A through E. A customer who has purchased the software for one system may buy the right to copy that software at a reduced fee. This right to copy entitles a customer to make one copy of an add-on HP software product for distribution and use on one additional HP 3000 system with no time limit. This method of purchasing software is indicated by the suffix R.

Example: FORTRAN/3000 Compiler is product number 32102B. "Right-to-Copy" FORTRAN/3000 is 32102R.

Standard Software Product (ordered as xxxxxA through xxxxxE)

This product must be ordered for the first use of a software product that is purchased for an HP 3000 system. Purchase of the software product includes:

- one copy of the product's software installed on one HP 3000 system
- the right to use the software on one HP 3000 system with no time limit
- one copy of the product's firmware, if appropriate
- one copy of the associated product manual(s)

Right to Copy the Standard Software Product (ordered as xxxxxR)

The right to copy the standard software product is available to provide software at a reduced fee for additional HP 3000 systems. Purchase of the Right to Copy includes:

- the right to make one copy of a previously or concurrently purchased standard software product
- the right to distribute to and use the copy of the software product on one additional HP 3000 system with no time limit
- one copy of the product's firmware, if appropriate
- one copy of the associated product manual(s)

Order one Right-to-Copy product for each copy desired. Installation of Right-to-Copy products may be purchased on a time and materials basis.

The following tables list the software products available, and the product numbers for both purchasing methods. Detailed descriptions of each product can be found in the HP 3000 Specification Guide (5953-0588).

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Languages
3x III 44	32233A	COBOL II/3000 Compiler. Includes: COBOL II/3000 Reference Manual (32233-90001) COBOL/3000 to COBOL II/3000 Conversion Guide (32233-90005)
3x III 44	32233R	"Right to Copy" 32233A product (includes manuals listed above)
3x III 44	32213C	COBOL/3000 Compiler Includes: COBOL/3000 Reference Manual (32213-90001) Using COBOL/3000 (32213-90003)
3x III 44	32213R	"Right to Copy" 32213C product (includes manuals listed above)
3x III 44	32104A	RPG/3000 Compiler. Includes: RPG/3000 Reference Manual (32104-90001) RPG Listing Analyzer (32104-90003)
3x III 44	32104R	"Right to Copy" 32104A product (includes manuals listed above)
3x III 44	32102B	FORTRAN/3000 Compiler. Includes: FORTRAN/3000 Reference Manual (30000-90040) FORTRAN/3000 Pocket Guide (32102-90002)
3x III 44	32102R	"Right to Copy" 32102B product (includes manuals listed above)
3x III 44	32111A	BASIC/3000 Interpreter and Compiler. Includes: BASIC for Beginners (03000-90025) BASIC/3000 Pocket Guide (03000-90050) BASIC/3000 Interpreter Manual (30000-90026) BASIC/3000 Compiler Reference Manual (32103-90001)
3x III 44	32111R	"Right to Copy" 32111A product (includes manuals listed above)
III	32105A	APL/3000 Language Subsystem. Includes: APL Reference Manual (32105-90002) APL Pocket Guide (32105-90003) APL firmware
III	32105R	"Right to Copy" 32105A product (includes manuals and firmware listed above)
3x III 44	32100A	SPL/3000 Compiler. Includes: SPL Pocket Guide (32100-90001) SPL/3000 Reference Manual (30000-90024) SPL Textbook (30000-90025)
3x III 44	32100R	"Right to Copy" 32100A product (includes manuals listed above)

SOFTWARE ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Data Communications Software
3x III 44	32190A	DS/3000 Distributed Systems Software. Provides remote access, interactive processing, and resource sharing among HP 3000 computers and other Hewlett-Packard computer systems. Includes: DS/3000 Reference Manual (32190-90001) DS/3000 to DS/1000 Reference Manual (32190-90005)
3x III 44	32190R	"Right to Copy" 32190A product (includes manuals listed above)
3x III 44	30130E	RJE/3000 Remote Job Entry provides IBM 2780/3780 emulation. Includes: 2780/3780 Emulator Reference Manual (30000-90047)
3x III 44	30130R	"Right to Copy" 30130E product (includes manual listed above)
3x III 44	32192A	MRJE/3000 Multileaving Remote Job Entry. Provides IBM HASP/JES/ASP multileaving workstation emulation for remote job entry by multiple users simultaneously. Includes: MRJE/3000 Reference Manual (32192-90001)
3x III 44	32192R	"Right to Copy" 32192A product (includes manual listed above)
3x III 44	32229A	IML/3000 Interactive Mainframe Link (3270 Emulator). Provides interactive communication between the HP 3000 and IBM or IBM-compatible mainframe computers. Includes: IML/3000 Reference Manual (32229-90001) Two (2) IML/3000 Keyboard Templates (7120-8716) *Note: IML/3000 Training/Consulting Package (32240X) should be ordered with the initial copy of IML/ 3000 software.*
3x III 44	32229R	"Right to Copy" 32229A product (includes manual and templates listed above)
3x III 44	32193A	MTS/3000 Multipoint Terminal Support. Provides synchronous and asynchronous multipoint terminal communications. Includes: MTS/3000 Reference Manual (32193-90002)
3x III 44	32193R	"Right to Copy" 32193A product (includes manual listed above)
		Information Systems Software
3x III 44	36578A	TDP/3000 Text and Document Processor. Provides interactive text processing and document formatting. Includes: TDP/3000 Reference Manual (36578-90001) Using TDP/3000 (36578-90002) TDP/3000 Quick Reference Guide (36578-90003)
30 III 44	36578R	"Right to Copy" 36578A product (includes manuals listed above)
3x III 44	32250A	HP DSG/3000 Decision Support Graphics Software. Includes: HP DSG/3000 Reference Manual (32250-90001) HP DSG/3000 Guide (32250-90002)
30 III 44	32250R	"Right to Copy" 32250A product (includes manuals listed above)

SOFTWARE ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Information Systems Software (continued)
3x III* 44	36580A	IFS/3000 Interactive Formatting System. Provides interactive specification of page formats containing logos, characters, and forms for use with HP 2680 Laser Printing System. Includes: Format Design Reference Manual (36580-90001)
3x III* 44	36580R	"Right to Copy" 36580A product (includes manual listed above)
3x III* 44	36581A	IDS/3000 Interactive Design System. Provides interactive design of logos, characters, and forms for use with HP 2680 Laser Printing System. Includes: Character and Logo Design Reference Manual (36581-90001) Forms Design Reference Manual (36581-90002) *Note: IDS/3000 requires IFS/3000.*
3x III* 44	36581R	"Right to Copy" 36581R product (includes manuals listed above)
		Manufacturing Applications Software
3x III 44	32260A	Materials Management/3000 Application Software for managing the materials planning and control function of a manufacturing company. Includes modules and user manuals for: —Master Production Scheduling and Rough Cut Resource Planning —Maintaining Parts and Bills of Material —Maintaining Routings and Workcenters —Material Issues and Receipts —Maintaining Work Orders —Managing Inventory Balances —Maintaining Purchase Orders —Material Requirements Planning —Standard Product Costing —System Customization —System Operation
3x III 44	32260R	"Right to Copy" 32260A product (includes manuals listed above)
3x III 44	32260UA	British Language Version Materials Management/3000. Includes user manuals for 32260A.
3x III 44	32260UR	"Right to Copy" 32260UA product (includes user manuals for 32260A).

**Software can be used on the Series III; however, since Series III does not support HP 2680A Intelligent Page Printer, printer must reside on a different HP 3000 system.*

SOFTWARE ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Additional Applications Software
3x 44	32199A	Flexible Disccopy/3000 Includes: Flexible Disccopy Manual (32199-90001).
3x 44	32199R	"Right to Copy" 32199A product (includes manual listed above)
3x III 44	32205B	Scientific Library. Includes: Scientific Library Reference Manual (30000-90027)
3x III 44	32205R	"Right to Copy" 32205A product (includes manuals listed above)
3x III 44	32900B*	SIS/3000 Student Information System. Includes: SIS/3000 Reference Manual (32900-90001) SIS/3000 Technical Manual (32900-90005) SAS/3000 Reference Manual (32901-90001) SAS/3000 Technical Manual (32901-90005)
3x III 44	32900R*	"Right to Copy" 32900B product (includes manuals listed above)
3x III 44	32902A*	CIS/3000 College Information System. Includes: CIS/3000 Reference Manual (32902-90003) CIS/3000 Technical Manual (32902-90005)
3x III 44	32902R*	"Right to Copy" 32902A product (includes manuals listed above)
		HP 264x Terminal Keyboard Templates
3x III 44	7120-1189	V/3000 ENTRY Template.
3x III 44	7120-1190	V/3000 FORMSPEC/REFSPEC Template
3x III 44	7120-8716	IML/3000 Inquiry and Development Facility (IDF) Template

Templates should be ordered through the Hewlett-Packard Corporate Parts Center.
**HP 3000 system on which this software is used requires magnetic tape drive for software distribution and backup.*

SOFTWARE SUPPORT

Hewlett-Packard offers a broad range of software support services to help insure customer satisfaction with HP 3000 computer systems. Since support needs differ, a range of services are available to tailor a support plan appropriate to each customer. Consult the HP 3000 Specification Guide (5953-0588) for more information about Hewlett-Packard support services.

Alphabetic suffixes are used to indicate the particular service relating to a specific product. Standard software support is called Customer Support Service (CSS) and is denoted by the suffix T. Extensions to this coverage are specified by the suffix V for support of an additional site through a central site receiving CSS service, and the suffix P to permit additional callers to use Phone-In Consulting.

The Fundamental Operating Software and all software products residing on a system must be covered at the same level of service.

For experienced customers, reduced support under Software Subscription Service (suffix S) is available.

Example: Customer Support Service (CSS) for FORTRAN/3000 (32102B) is 32102T.
Additional CSS thru a central site for FORTRAN/3000 is 32102V.
Software Subscription Service (SSS) for FORTRAN/3000 is 32102S.

Customer Support Service—CSS (ordered as xxxxxT)

CSS is Hewlett-Packard's standard software support plan, and provides the highest level of support available. All customers are strongly encouraged to buy CSS to maximize their satisfaction with their HP 3000 system. CSS helps to develop a close working relationship between the account-responsible Systems Engineer (SE) and the customer, thereby enabling the SE to advise on applications development and future system planning.

CSS is critically important to customers purchasing their first HP 3000. Whether the customer is relatively new to data processing or already has a highly-skilled team of DP professionals, the HP 3000 is a new system to that customer. Until the customer gains at least 12 months' experience with the HP 3000, problems are likely to arise and design assistance may be needed from HP.

Features

- Right to use software and firmware updates on one system
- Delivery and installation of software and firmware updates
- Software Status Bulletin (twice a month)
- Software problem reporting
- HP 3000 Communicator (digest of articles relevant to programming the HP 3000)
- Product manual updates
- Phone-In Consulting Service (PICS)
- On-site Systems Engineering assistance
- Account-responsible Systems Engineer

Additional Site Support (ordered as xxxxxV)

Customers who have more than one HP 3000 and want to support additional systems from a central location may order Additional Site Support through a single Systems Manager. On-site Systems Engineering assistance to the remote site is not included, but is available to the central site to identify and verify software problems encountered on the remote systems.

Features

- The right to make one copy of the software updates which are delivered to the central site and the right to distribute to and use these updates on one additional computer system.
- Delivery and installation of firmware updates, if appropriate
- The right to copy and distribute one copy of the appropriate product manual updates for use with one additional computer system.
- Use of Phone-In Consulting Service through the central system on behalf of problems identified at the additional site.
- On-site assistance by a Systems Engineer at the central system to identify and verify software problems encountered on the additional system.

Additional PICS Caller (ordered as 32400P)

This service provides an additional Phone-In Consulting Service (PICS) caller. Each additional caller is provided the same PICS benefits as the System Manager, except no requests may be made for on-site assistance by a Hewlett-Packard Systems Engineer. Only the designated System Manager under CSS coverage may request on-site assistance by a Hewlett-Packard Systems Engineer. As many 32400P's may be ordered as desired; each one must have a name specified as the authorized caller.

Software Subscription Service—SSS (ordered as xxxxxS)

Certain customers may not need all the services provided by Customer Support Service. For those customers who do not require any Systems Engineering assistance, Software Subscription Service is available. SSS does not provide Phone-In Consulting or any other HP Systems Engineering assistance available with CSS.

Customers should only purchase Software Subscription Service if they are very experienced with the HP 3000 and have enough in-house expertise that they will not require the personal assistance of an HP Systems Engineer. (If an SE is needed, the customer will be charged on a time and materials basis.)

Features

- Right to use software and firmware updates on one system
- Delivery of software and firmware updates
- Software Status Bulletin (twice a month)
- Software problem reporting through the mail
- HP 3000 Communicator (digest of articles relevant to programming the HP 3000)
- Reference manual updates

Purchasing Support

Support products as described previously must be ordered with the following qualifications:

- An HP-trained System Manager responsible for maintaining the integrity of the system's hardware and software, or a trained designated alternate, must be identified as a contact for Hewlett-Packard.
- The same level of service must be purchased for all of the HP software products which make up one computer system. Due to the interaction among software elements, service cannot be given to specific software products while omitting others.
- Product 32400P (Additional PICS Caller) can be purchased as many times as desired. The name of a single authorized caller must be provided for each 32400P ordered. 32400P cannot be purchased unless 32400T (CSS for Fundamental Operating Software) has been purchased.
- Central system CSS support of additional systems (xxxxxV) can be purchased by customers with multiple installations only. It cannot be purchased unless one of the installations has purchased Customer Support Service (xxxxxT).
- A minimum of three (3) months of support must be purchased.
- If 12 months of software support is ordered concurrently with the HP 3000 software, Hewlett-Packard will provide an additional 90-day period of the services ordered at no charge.

All HP 3000 software products are discountable under Hewlett-Packard Computer Products Purchase Agreements. Software support services are not discountable.

SOFTWARE SUPPORT ORDERING INFORMATION

PRODUCT DESCRIPTION	CUSTOMER SUPPORT SERVICE (CSS)	ADDITIONAL PICS CALLER	ADDITIONAL SITE SUPPORT	SOFTWARE SUBSCRIPTION SERVICE (SSS)
Fundamental Operating Software (FOS)	32400T Add Option 033 for Series 30 or 33 systems; Option 003 for Series III systems; or option 044 for Series 44 systems.	32400P	32400V Add Option 033 for Series 30 or 33 systems; Option 003 for Series III systems; or option 044 for Series 44 systems.	32400S Add Option 033 for Series 30 or 33 systems; Option 003 for Series III systems; or option 044 for Series 44 systems.
Languages				
COBOL/3000	32213T		32213V	32213S
COBOL II/3000	32233T*	Additional PICS callers are associated with the HP 3000 system installation and not individual software products. 32400P callers may discuss any software products on their system receiving Hewlett-Packard software support service (T or V coverage).	32233V*	32233S
SPL/3000	32100T		32100V	32100S
RPG/3000	32104T		32104V	32104S
BASIC/3000	32111T		32111V	32111S
FORTRAN/3000	32102T		32102V	32102S
APL/3000	32105T		32105V	32105S
Communications				
DS/3000	32190T		32190V	32190S
RJE/3000	30130T		30130V	30130S
MRJE/3000	32192T		32192V	32192S
IML/3000	32229T		32229V	32229S
MTS/3000	32193T		32193V	32193S
Manufacturing				
Materials Management/3000	32260T		32260V	32260S
British Language Version Materials Management/3000	32260UT		32260UV	32260US

**Note: Add option 68 for concurrent coverage of COBOL II/3000 and COBOL/3000.*

SOFTWARE SUPPORT ORDERING INFORMATION

PRODUCT DESCRIPTION	CUSTOMER SUPPORT SERVICE (CSS)	ADDITIONAL PICS CALLER	ADDITIONAL SITE SUPPORT	SOFTWARE SUBSCRIPTION SERVICE (SSS)
Information Systems				
DSG/3000	32250T	Additional PICS callers are associated with the HP 3000 system installation and not individual software products. 32400P callers may discuss any software products on their system receiving Hewlett-Packard software support service (T or V coverage).	32250V	32250S
TDP/3000	36578T		36578V	36578S
IFS/3000	36580T		36580V	36580S
IDS/3000	36581T		36581V	36581S
Miscellaneous				
Flexible Disccopy/3000	32199T		32199V	32199S
Scientific Library	32205T		32205V	32205S
SIS/3000	32900T**		32900V**	32900S
CIS/3000	32902T**		32902V**	32902S

***Subject to local availability.*

For customers with large programming staffs, additional documentation updating services are available. Individual manuals can be ordered by manual part number using the form contained in the HP 3000 Communicator.

The software support services (CSS and SSS) include only one copy of the updates corresponding to the manual sets for a given software product. Using the Manual Update Service (five-digit product number plus a "Q" suffix), additional manual sets can receive this service.

Example: Manual Update Service (MUS) for FORTRAN/3000 is 32102Q.

Manual Update Service—MUS (ordered as xxxxxQ)

Manual Update Service provides the customer with one copy of updates or new editions of product manuals whenever they are published. For a monthly fee, product manual changes are released as needed and are automatically mailed to the System Manager. This service is purchased independently of software support products and is in addition to the manual updates included in CSS or SSS. An original set of manuals is not included in this service. A minimum of 12 months of MUS must be purchased.

Automatic manual updates are recommended for installations that have several copies of HP 3000 manuals. Purchasing MUS eliminates the need for customers to note when updates are published and then request that they be sent, one at a time. MUS helps to eliminate problems that arise from using outdated documentation.

Software Notification Service—SNS (ordered as 32499A)

Software Notification Service provides the customer with one copy of each of two periodicals: the Software Status Bulletin (SSB) and the HP 3000 Communicator. The SSB is mailed to the System Manager twice monthly with a cumulative bulletin mailed quarterly. It lists known bugs for all software products and temporary work-arounds if available. The HP 3000 Communicator is mailed to the System Manager four times yearly and contains feature articles, information on documentation available from Hewlett-Packard, new software products and operational or programming tips. Information on newly released software updates is included in a separate section of the HP 3000 Communicator to help the customer plan for their implementation.

The following table shows the manual sets that can be purchased and the manual sets that can receive the updating service (MUS).

HP 3000 MANUAL ORDERING INFORMATION

Overview

Guide to a Successful Installation 30000-90135	General Information Manual 30000-90008	HP 3000 Specification Guide 5953-0588	Materials Management/3000 GIM 5953-0587

HP 3000 Hardware

Site Preparation Set 30000-60029	Site Planning and Preparation Guide 30000-90206	Site Planning Workbook 30000-90207	HP Computer Supplies 5953-2450	Machine Instruction Set 30000-90022	Instruction Decoding Pocket Guide 30000-90057

System Usage

MPE Commands 30000-90009	MPE Intrinsics 30000-90010	Segmenter 30000-90011	System Utilities 30000-90044	Debug/Stack Dump 30000-90012	EDIT/3000 03000-90012	FCOPY/3000 03000-90064
Error Messages 30000-90015	Index to MPE 30000-90045	Software Pocket Guide 30000-90049	Using files 30000-90102	System Tables Manual 32002-90003	SORT/3000 32214-90001	Flexible Disccopy/3000 32199-90001

System Administration

System Manager/ System Supervisor 30000-90014	Series III Console Operator's Guide 30000-90013	Series 30/33 Console Operator's Guide 30070-90025	Series 44 Console Operator's Guide 30090-90013

Data Management

Using HP V/3000 32209-90004	HP V/3000 Reference Manual 32209-90001	HP V/3000 Operator's Guide 32209-90003	KSAM/3000 30000-90079	IMAGE/3000 32215-90003	QUERY/3000 30000-90042

Languages

Using the HP 3000 03000-90121	COBOL II/3000 32233-90001	COBOL/3000 to COBOL II/3000 Conversion Guide 32233-90005	COBOL/3000 32213-90001	Using COBOL/3000 32213-90003	
BASIC/3000 for Beginners 03000-90025	BASIC/3000 Interpreter 30000-90026	BASIC/3000 Compiler 32103-90001	BASIC/3000 Pocket Guide 03000-90050	RPG/3000 32104-90001	RPG/3000 Listing Analyzer 32104-90003
FORTRAN/3000 30000-90040	FORTRAN/3000 Pocket Guide 32102-90002	SPL/3000 30000-90024	SPL Textbook 30000-90025	SPL Pocket Guide 32100-90001	
APL/3000 32105-90002	APL/3000 Pocket Guide 32105-90003	Compiler Library 30000-90028	Scientific Library 30000-90027		

Data Communications

Guidebook to Data Communications 5955-1715	Data Communications Handbook 30000-90105	RJE/3000 30000-90047	DS/3000 32190-90001	DS/3000 to DS/1000 32190-90005	MRJE/3000 32192-90001	MTS/3000 32193-90002	IML/3000 32229-90001

Information Systems

DSG/30000 32250-90001	DSG/3000 Guide 32250-90002	TDP/3000 36578-90001	Using TDP/3000 36578-90002	TDP/3000 Guide 36578-90003	IDS/3000 Character and Logo Design 36581-90001	IDS/3000 Forms Design 36581-90002	IFS/3000 Format Design 36580-90001

Manufacturing

Master Prod Scheduling and Rough Cut Resource Plan 32260-90001	Maintaining Parts and Bills of Material 32260-90002	Maintaining Routings and Workcenters 32260-90003	Material Issues and Receipts 32260-90004	Maintaining Work Orders 32260-90005	Managing Inventory Balances 32260-90006
Maintaining Purchase Orders 32260-90007	Material Requirements Planning 32260-90008	Standard Product Costing 32260-90009	System Customization 32260-90010	System Operation 32260-90011	

Conversions

System/3 to HP 3000 Conversion 32104-90004	3000CX to Series II Conversion 30000-90046	COBOL/3000 to COBOL II/3000 Conversion Guide 32233-90005

Denotes Pocket Guide

MANUAL ORDERING INFORMATION

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Manual Sets
3x III 44	30381A	HP 3000 Series 30/33, Series III and Series 44 User Manual Set Includes System Reference Manual plus all manuals in the following categories on the preceding chart: Overview (except Materials Management/3000 GIM) System Usage System Administration Data Management *Note: Customers wishing to have additional manuals on-site prior to system shipment should order this product.*
III	003	Specifies Series III Console Operator's Guide
3x	033	Specifies Series 30 and Series 33 Console Operator's Guide
44	044	Specifies Series 44 Console Operator's Guide
3x III 44	699	Deletes binders
3x III 44	30093A	Programmer Manuals. Includes the following manuals: MPE Pocket Guide, Compiler Library, MPE Commands, EDIT/3000, SORT-MERGE/3000, FCOPY/3000, Using Files, Segmenter, Error Messages, MPE Intrinsics, Debug
3x III 44	32263A	Materials Management/3000 Manual Set. Includes: —Master Production Scheduling and Rough Cut Resource Planning —Maintaining Parts and Bills of Material —Maintaining Routings and Workcenters —Material Issues and Receipts —Maintaining Work Orders —Managing Inventory Balances —Maintaining Purchase Orders —Material Requirements Planning —Standard Product Costing —System Customization —System Operation
		Software Notification Service*
3x III 44	32499A	HP 3000 Software Notification Service. Includes Software Status Bulletin (SSB), and HP 3000 Communicator

**Must be ordered for 12 months or made coterminous with existing contract.*

AVAILABILITY			PRODUCT NO. AND OPTIONS	DESCRIPTION
				Manual Update Service *Note: The figure in parentheses is the number of manuals.*
3x	III	44	32400Q	HP 3000 Systems Manual Updates. Includes updates for all user manuals supplied in 30381A and the base HP 3000 system. Must order option 003, option 033, or option 044. (26)
	III		003	Specifies Series III Console Operator's Guide
3x			033	Specifies Series 30 and Series 33 Console Operator's Guide
		44	044	Specifies Series 44 Console Operator's Guide
3x	III	44	30093Q	Programmer's Manual Updates. Includes updates for all manuals supplied in 30093A. (11)
				Data Management
3x	III	44	32235Q	DBMS/3000 Manual Updates. Includes updates for IMAGE and QUERY Reference Manuals. (2)
3x	III	44	32208Q	KSAM/3000 Manual Updates. Includes updates for KSAM Reference Manual. (1)
3x	III	44	32209Q	HP V/3000 Manual Updates. Includes updates for HP V/3000 manuals. (4)
				Languages
3x	III	44	32233Q	COBOL II/3000 Manual Update Service. Includes COBOL Reference Manual and Conversion Guide. (2)
3x	III	44	32100Q	SPL/3000 Manual Update Service. Includes 3 SPL manuals. (3)
3x	III	44	32104Q	RPG/3000 Manual Update Service. Includes RPG Reference Manual and RPG Listing Analyzer. (2)
3x	III	44	32111Q	BASIC/3000 Manual Update Service. Includes 4 BASIC manuals. (4)
3x	III	44	32102Q	FORTRAN/3000 Manual Update Service. Includes FORTRAN Reference Manual and Pocket Guide. (2)
	III		32105Q	APL/3000 Manual Update Service. Includes APL Reference Manual and Pocket Guide. (2)

AVAILABILITY	PRODUCT NO. AND OPTIONS	DESCRIPTION
		Manual Update Service (continued)
		Data Communications
3x III 44	32190Q	DS/3000 Manual Update Service. Includes DS/3000 and DS/3000 to DS/1000 Manual. (2)
3x III 44	30130Q	RJE/3000 Manual Update Service. Includes RJE Reference Manual. (1)
3x III 44	32192Q	MRJE/3000 Manual Update Service. Includes MRJE Reference Manual. (1)
3x III 44	32229Q	IML/3000 Manual Update Service. Includes IML Reference Manual (1).
3x III 44	32193Q	MTS/3000 Manual Update Service. Includes MTS Reference Manual. (1)
		Manufacturing
3x III 44	32260Q	Materials Management/3000 Manual Update Service. Includes 11 manuals.
		Management Information Systems
3x III 44	32250Q	DSG/3000 Manual Update Service. Includes DSG Reference Manual (1).
3x III 44	36578Q	TDP/3000 Manual Update Service. Includes TDP Reference Manual (1).
3x III 44	36580Q	IFS/3000 Manual Update Service. Includes IFS Reference Manual (1).
3x III 44	36581Q	IDS/3000 Manual Update Service. Includes IDS Reference Manual (2).
		Miscellaneous
3x III 44	32205Q	Scientific Library Manual Update Service. Includes Scientific Library Reference Manual. (1)
3x III 44	32900Q	SIS/3000 Manual Update Service. Includes all 4 SIS and SAS manuals. (4)
3x III 44	32902Q	CIS/3000 Manual Update Service. Includes both CIS manuals. (2)

SOFTWARE ORDERING EXAMPLES

Example 1. Purchase of a customer's first HP 3000 system. Shown below is an example of how to order software and Customer Support Service (CSS). Note that all software on an HP 3000 system must have the same type of software support service; i.e., all Customer Support Service or all Software Subscription Service. In addition to the HP 3000 Fundamental Operating Software, COBOL II/3000, RPG/3000, and DS/3000 software products are purchased.

PART NO.	QTY.	DESCRIPTION
		Software
(System Processor Unit)	1	HP 3000 System Processor Unit includes Fundamental Operating Software (FOS)—MPE, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000 and the facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000).
32233A	1	COBOL II/3000
32104A	1	RPG/3000
32190A	1	DS/3000
		Software Support for Twelve Months
32400T	12	CSS for Fundamental Operating Software
32400T-003 033 044	12	Order correct configuration option to correspond to hardware system: Option 003 for Series III, option 033 for Series 30/33, or option 044 for Series 44.
32233T	12	CSS for COBOL II/3000
32104T	12	CSS for RPG/3000
32190T	12	CSS for DS/3000

Example 2. Purchase of the second HP 3000 system by the same customer:
A customer desiring to purchase a second copy of a software product for an additional HP 3000 system should purchase the right to copy the software products. Software support may be ordered as shown in Example 1 or another alternative is available for a "remote" HP 3000 system. Support of a "remote" HP 3000 by the system manager of the central HP 3000 site under Customer Support Service (CSS) is available as "V" support products. The example below illustrates ordering twelve months of support.

PART NO.	QTY.	DESCRIPTION
		Remote System Software
(System Processor Unit)	1	HP 3000 System Processor Unit includes Fundamental Operating Software (FOS)—MPE, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000 and the facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000).
32233R*	1	COBOL II/3000 RIGHT TO COPY
32104R*	1	RPG/3000 RIGHT TO COPY
32190R*	1	DS/3000 RIGHT TO COPY
		Remote Support for Twelve Months
32400V	12	Central system customer support service for Fundamental Operating Software for an additional system.
32400V-003 033 044	12	Order correct configuration option to correspond to hardware system: Option 003 for Series III systems; Option 033 for Series 30/33 systems; Option 044 for Series 44 systems.
32233V	12	Central system customer support service for COBOL II/3000 for an additional system.
32104V	12	Central system customer support service for RPG/3000 for an additional system
32190V	12	Central system customer support service for DS/3000 for an additional system

**Purchase of "R" software products requires previous or concurrent purchase of corresponding standard software product.*

SOFTWARE ORDERING EXAMPLES

Example 3. Ordering Documentation Distribution Services: If a user has an extra system manual set plus an extra COBOL II/ Reference Manual and wants updates, order the following:

PART NO.	QTY.	DESCRIPTION
		Documentation Distribution Services
32400Q	12	Manual update service for Fundamental Operating Software.
32400Q-003 033 044	12	Order correct configuration option to correspond to hardware system: Option 003 for Series III or Option 033 for Series 30/33, or Option 044 for Series 44.
32233Q	12	Manual update service for COBOL II/3000.

Example 4. If a system has a programmer who wants to monitor the current HP 3000 software status, i.e., receive the HP 3000 Communicator and Software Status Bulletin, order the following HP 3000 Software Notification Service:

PART NO.	QTY.	DESCRIPTION
		Software Notification Service
32499A	12	HP 3000 Software Notification Service

TRAINING AND CONSULTING ORDERING INFORMATION

Note: Refer to HP 3000 Specification Guide (5953-0588) for course description and prerequisites.

PRODUCT NO.	DESCRIPTION
	Classroom Training
22801B	HP 3000—A Programmer's Introduction. Five-day course given at an HP Technical Center.
22801X	HP 3000—A Programmer's Introduction. Five-day course given on site.
22802B	HP 3000 System Management and Operation. Five-day course given at an HP Technical Center.
22802X	HP 3000 System Management and Operation. Five-day on-site course.
22807A	HP 3000 System Operator. Three day course given at an HP Technical Center.
22807X	HP 3000 System Operator. Three day course given on site.
22956A	HP 3000 IMAGE/3000 (Data Base Management). Five-day course given at an HP Technical Center.
22956X	HP 3000 IMAGE/3000 (Data Base Management). Five-day on-site course.
22805A	HP 3000 MPE Special Capabilities. Five-day course given at an HP Technical Center.
22804A	HP 3000 SPL File System Introduction. Five-day course given at an HP Technical Center.
22808A	HP 3000 Application Design. Three day course given at an HP Technical Center.
22830A	HP V/3000. Four-day course given at an HP Technical Center.
22830X	HP V/3000. Four-day on-site course.
36900E	Distributed Systems/3000. A three-day on-site course.
32240X	IML/3000 Training/Consulting Package. Four days on-site training and consulting.
32261A	Materials Management/3000 System Administrator I Training. Five-days at an HP Technical Center.
32261X	Materials Management/3000 System Administrator I Training. Five-days on-site.
32262A	Materials Management/3000 System Administrator II Training. Five-days at an HP Technical Center.
32262X	Materials Management/3000 System Administrator II Training. Five-days on-site.
22834A	HP DSG/3000 Training. Three-day course given at an HP Technical Center.
36579A	HP TDP/3000 Training. Two-day course given at an HP Technical Center.
36579X	HP TDP/3000 Training. Two-day course given on site.

Hewlett-Packard reserves the right to cancel any class upon three-weeks notice.

TRAINING AND CONSULTING ORDERING INFORMATION

Note: Refer to HP 3000 Specification Guide (5953-0588) for course description and prerequisites.

PRODUCT NO.	DESCRIPTION
	Self-Paced Learning Series
22835A	HP 3000: A Guided Tour
22832A	HP 3000—Learning COBOL II
22833A	HP DSG/3000—Interactive Use
	Consulting
22825A	HP 3000 Software Consulting. A consultation service to help in applying HP software to your specific applications problems. Cost per day. Must order one no cost option 001-002-003 (001 Commercial Applications, 002 Scientific Applications, 003 Communications Applications)
22705A	Manufacturing Industry Consulting. One day performed by Manufacturing Industry Specialist.

Site Preparation Data

Environmental Specifications ■ System Physical Dimensions
System Site Preparation Data ■ Peripherals Site Preparation Data

ENVIRONMENTAL SPECIFICATIONS

ENVIRONMENT	SERIES 30 or 33	SERIES III	SERIES 44
Relative Humidity —non-condensing —optimal —max. wet bulb temp.	 30–80% 40–60% 78°F(25°C)	 40–80% 60% 78°F(25°C)	 40–80% 60% 78°F(25°C)
Temperature (operating)	55°–95°F* (15°–35°C)	55°–95°F* (15°–35°C)	55°–95°F* (15°–35°C)
Recommended Temperature	68°–86°F (20°–30°C)	68°–86°F (20°–30°C)	68°–86°F (20°–30°C)
Max. Rate of Temperature Change	18°F/Hr. (10°C/Hr.)	18°F/Hr. (10°C/Hr.)	18°F/Hr. (10°C/Hr.)
Line Voltage	100/120/220/240 VAC (Series 30) 200/210/220/230/240 VAC (Series 33) +4%, −10% sgl. phase	200/210/220/230/240 VAC +4%, −10% sgl. phase	200/210/220/230/240 VAC +4%, −10% sgl. phase
Line Frequency	50 or 60 Hz, ±0.5 Hz	50 or 60 Hz, ±0.5 Hz	50 or 60 Hz, ±0.5 Hz

**Recommended for short periods of operation only (less than 48 hours).*

Note: HP 3000 Computer Systems should not be installed in a carpeted environment. Complete site preparation details can be found in the Site Planning and Preparation Guide.

SYSTEM PHYSICAL DIMENSIONS

DIMENSION	HEIGHT	DEPTH	WIDTH
Series 30	83.6 cm (36⅞ in.)	62 cm (24 in.)	44.3 cm (17 7/16 in.)
Series 33/44	82.5 cm (32.5 in.)	72.4 cm (28.5 in.)	173.4 cm (68¼ in.)
Series III	162.6 cm (64 in.)	80.0 cm (31.5 in.)	53.34 cm (21 in.)

SITE PREPARATION DATA FOR SERIES 30

SYSTEM SPECIFICATION	HP 7906M 20 Mb DISC DRIVE (Must be ordered separately)		SYSTEM CABINET		HP 2649E SYSTEM/MAINTENANCE CONSOLE (Must be ordered separately)	
	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)
VOLTAGE (single phase)	100/120	220/240	100/120	220/240	115	230
CURRENT (Note 3)	8.0A	4.5A	5.0A	2.6A	1.3A	0.7A
HEAT OUTPUT (per hour)	2530 btu	640 kcal	1640 btu	459 kcal	348 btu	88 kcal
WEIGHT	270 lb	122 kg	250 lb	114 kg	50 lb	23 kg
SIGNAL CABLE LENGTH	Note 1	Note 1	NA	NA	Note 2	Note 2

SITE PREPARATION DATA FOR SERIES 33

SYSTEM SPECIFICATION	HP 7906M 20 Mb DISC DRIVE (Must be ordered separately)		SYSTEM CABINET		HP 2649E SYSTEM/MAINTENANCE CONSOLE (Must be ordered separately)	
	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)
VOLTAGE (single phase)	100	230	200–240	200–240	115	230
CURRENT	8.0A	4.5A	7.4A	7.1A	1.3A	0.7A
HEAT OUTPUT (per hour)	2530 btu	640 kcal	5300 btu	1335 kcal	348 btu	88 kcal
WEIGHT	270 lb	122 kg	710 lb	322 kg	50 lb	23 kg
SIGNAL CABLE LENGTH	Note 1	Note 1	NA	NA	Note 2	Note 2

Note 1: Up to seven slave disc drives may be daisy chained from e controller within the master drive. The cable length from system to mester drive is 2M (6.5 ft). The cable length between drives is 2.4M (8 ft). In addition, each slave drive has a cable back to the controller. The length of this ceble for each drive is 15.2M (50 ft). The maximum cumulative length of daisy-chained cable is 22.5M (74 ft).

Note 2: The system/maintenance console is cabled to remain adjecent to the System Processor Unit, approximately 2M (6.5 ft).

Note 3: The HP 3000 Series 3x computer system hes been designed to operate reliably over a broad range of power conditions with most commercially availeble power sources, when installed eccording to Hewlett-Packard guidelines for site preperetion (refer to Site Planning and Preparation Guide 30000-90206).

The HP Customer Engineer may essist in determining the need for line conditioning in addition to these guidelines by monitoring the AC power line as part of the standard site preparation for e Series 3x system. If the specifications are not met, additional line conditioning equipment will be required for reliable system operation. Since power conditions may vary over time, line conditioning equipment may be required after system installation et HP's option to provide continued reliable operation.

SITE PREPARATION FOR SERIES III

	HP 7920M 50 Mb DISC DRIVE (Must be ordered separately)		SYSTEM PROCESSING UNIT (SPU)		HP 2621A CRT CONSOLE (Must be ordered separately)		7970E 1600 bpi Mag Tape (Must be ordered separately)	
	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)
VOLTAGE (single phase)	110/120V	220/240V	200/210/220/230/240V		100/120V	220/240V	115V	230V
CURRENT	7.4A*	4.3A*	24A*	24A*	0.43A	0.25A	2.0A*	1.1A*
HEAT OUTPUT (per hour)	2390 btu	620 kcal	7,500 btu	1890 kcal	140 btu	35 kcal	580 btu	154 kcal
WEIGHT	300 lb	136 kg	490 lb	223 kg	35.5 lb	16.1 kg	290 lb	129 kg
SIGNAL CABLE LENGTH	18 ft**	5.49M**	—	—	25 ft	7.6M	20 ft	6M

SITE PREPARATION DATA FOR SERIES III WITH OPTION 200 (I/O EXPANSION TO SECOND BAY)

	HP 7920M 50 Mb DISC DRIVE (Must be ordered separately)		SPU WITH I/O EXPANSION BAY		HP 2621A CRT CONSOLE (Must be ordered separately)		7970E 1600 bpi Mag Tape (Must be ordered separately)	
	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)
VOLTAGE	110/120V	220/240V	200/210/220/230/240V		100/120V	220/240V	115V	230V
CURRENT	7.4A*	4.3A*	24A*	24A*	.43A	0.25A	2.0A*	1.1A*
HEAT OUTPUT (per hour)	2390 btu	620 kcal	9,000 btu	2268 kcal	140 btu	35 kcal	580 btu	154 kcal
WEIGHT	300 lb	136 kg	690 lb	313 kg	35.5 lb	16.1 kg	290 lb	129 kg
SIGNAL CABLE LENGTH	18 ft**	5.49M**	—	—	25 ft	7.6M	20 ft	6M

**Current consumption of SPU alone is up to 10 amps at 210V; remainder of current indicated is consumed by peripherals attached to outlets in the rear of the SPU.*

***Up to seven slave disc drives may be daisy-chained to a master drive. The cable length between disc drives is 2.4M (8 ft). In addition, each drive also has a cable back to the controller in the master drive. The length of this cable for each drive is 15.2M (50 ft). The maximum cumulative length of daisy-chained cable is 22.5M (74 ft). Longer cables may be special ordered, but this is not advised.*

Note: Under certain power line conditions at the system site, an isolation transformer or other line conditioning equipment may be required for add-on disc and magnetic tape drives.

SITE PREPARATION DATA FOR SERIES 44

SYSTEM SPECIFICATION	HP 7920M 50 Mb DISC DRIVE (Must be ordered separately)		SYSTEM PROCESSOR UNIT (SPU) Without 30078A expansion kit		SYSTEM PROCESSOR UNIT (SPU) With 30078A expansion kit		HP 2621A CONSOLE (Must be ordered separately)		HP 7970E MASTER MAGNETIC TAPE DRIVE (Must be ordered separately)	
	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)	USA (60 Hz)	NON-USA (50 Hz)
VOLTAGE (single phase)	100/120	220/240	200/210/220/230/240		200/210/220/230/240		110/120	220/240	115	230
CURRENT	7.4A*	4.3A*	24.0A*	24.0A*	24.0A**	24.0A**	.43A*	.25A*	2.5A*	1.4A*
HEAT OUTPUT (per hour)	2390 btu	620 kcal	4370 btu	1630 kcal	7380 btu	2580 kcal	140 btu	35 kcal	750 btu	198 btu
WEIGHT	300 lb	136 kg	705 lb	320 kg	750 lb	340 kg	35.5 lb	16.1 kg	290 lb	129 kg
SIGNAL CABLE LENGTH	Note 1	Note 1	—	—	—	—	25 ft	7.6M	20 ft	6M

**Currant consumption of System Processor Unit (SPU) alone is 8.3A at 210V/60 Hz and 8.1A at 220V/ 50 Hz. Remaindar of currant indicatad may ba consumed by peripherals attached to outlets in tha rear of tha SPU.*

***Currant consumption of tha SPU with Expansion Kit is alone up to 13.1A at 210V/60 Hz and 12.4A at 220V/50 Hz. Ramainder of currant indicatad may ba consumad by paripharals attachad to outlets in tha raar of tha SPU.*

Note: 1: Up to saven slave disc drives may be daisy chained from a controllar within tha master drive. Tha cabla langth from system to master driva is 6M (19.7 ft). The cabla langth batween drives is 2.4M (8 ft). In addition, aach slave drive has a cabla back to tha controllar. Tha langth of this cable for each drive is 15.2M (50 ft). Tha maximum cumulative langth of daisy-chainad cable is 22.5M (74 ft). If two master disc drivas ara usad on tha sama Sarias 44, the sum of the two cabla langths from tha system to tha master disc drives cannot axcead 6M (19.7 ft).

Nota: 2: Undar cartain powar lina conditions at tha system site, an isolation transformar or other line conditioning aquipment may be raquirad for add-on disc and magnatic tape drives.

PERIPHERALS SITE PREPARATION DATA

Electrical Power

These peripherals for the HP 3000 operate on 115 volt, 60 Hz, single phase (U.S.A.) or optionally on 230 volt, 50 Hz, single phase (International).

Installation

Installation is provided by a factory-authorized Customer Engineer and is included in the list price of all peripherals.

PERIPHERALS SUMMARY DATA — U.S.A

DESCRIPTION			STEADY STATE CURRENT	HEAT OUTPUT PER HOUR	WEIGHT (NET)	CABLE LENGTHS SERIES 3x/44	CABLE LENGTHS SERIES III
Disc Drives	7906S	20 Mb Drive	5.7A†	1780 btu	270 lb	Note 1	NA
	7920S	50 Mb Drive	5.1A†	1640 btu	315 lb	Note 1	Note 1
	7925S	120 Mb Drive	4.4A†	1400 btu	320 lb	Note 1	Note 1
		Controller in master drive	2.3A	752 btu	NA	Note 5	NA
Magnetic Tape Drives	7970B	800 BPI Drive	1.2A	324 btu	425 lb	NA	Note 4
	7970E	1600 BPI Drive	2.0A	580 btu	425 lb	NA	Note 4
	7970E	1600 BPI Drive (HP-IB)	2.5A	750 btu	425 lb	Notes 3, 4	NA
Line Printers	2601A	Daisy-Wheel Printer	1.1A	450 btu	57 lb	10 ft	10 ft
	2608A	400 LPM	10.5A*	2900 btu	215 lb	Note 2	50 ft
	2613A	300 LPM	4.0A	1300 btu	340 lb	50 ft	50 ft
	2617A	600 LPM	6.3A*	2030 btu	390 lb	50 ft	50 ft
	2619A	1000 LPM	12.5A*	4340 btu	570 lb	50 ft	50 ft
	2631B	180 CPS	1.8A	512 btu	51 lb	12.5 ft	12.5 ft
	2680A	Intelligent Page Printer**	24A	13,000 btu	875 lb	26 ft	NA
Display Terminals	2640x	All Models	1.1A	290 btu	44 lb	15 ft	15 ft
	2641A	APL Station	1.2A	290 btu	44 lb	15 ft	15 ft
	2645x	All Models	1.3A	350 btu	50 lb	15 ft	15 ft
	2647A	Intelligent Graphics	2.2A	560 btu	50 lb	15 ft	15 ft
	2648A	Graphics Terminal	1.7A	440 btu	50 lb	15 ft	15 ft
	2621A	Interactive Terminal	0.5A	140 btu	35.5 lb	16 ft	16 ft
	2621P	Printing Terminal	1.2A	300 btu	37.5 lb	16 ft	16 ft
	2624A	Display Station	1.4A	410 btu	41.4 lb	16 ft	16 ft
		with option 050	2.4A	581 btu	46.4 lb	16 ft	16 ft
	2626A	Display Station	1.4A	410 btu	41.4 lb	16 ft	16 ft
		with option 050	2:4A	581 btu	46.4 lb	15 ft	15 ft
	2642A	Display Station with Mini-Disc	4.0A	512 btu	54.8 lb	15 ft	15 ft
Printing Terminal	2635B	180 CPS	1.7A	512 btu	56 lb	12.5 ft	12.5 ft
	2675A	120 CPS with Dual Cartridge Tapes	1.3A	480 btu	23 lb	16 ft	16 ft
Plotter & Plotter/ Printer	7221B	Multi-Color Graphics Plotter	2.1A	615 btu	40 lb	NA	NA
	7221S	Multi-Color Graphics Plotter	2.1A	615 btu	65 lb	NA	NA
	7225A	Graphics Plotter	1.0A	239 btu	17.6 lb	NA	NA
	7245B	Plotter/Printer	2.5A	1020 btu	40 lb	NA	NA
	7310A	Graphics Plotter	4.2A	854 btu	55 lb	NA	NA
	9872B	Multi-Color Graphics Plotter	2.1A	615 btu	40 b	NA	NA
	9872S	Multi-Color Graphics Plotter	2.1A	615 btu	65 lb	NA	NA
Other	30104A	Paper Tape Reader	2.5A	683 btu	42 lb	NA	25 ft
	30105A	Paper Tape Punch	2.0A	683 btu	35 lb	NA	25 ft
	30106A	Card Reader	4.0A	1230 btu	75 lb	NA	25 ft
	30119A	Card Reader/Punch	5.3A	1450 btu	260 lb	NA	50 ft
	7260A	Optical Mark Reader	1.5A	460 btu	54 lb	7.5 ft	7.5 ft

**20A recommended breaker current*

***Requires 200–240 VAC.*

NA = Not Applicable.

†Operation on 120 volt, 60 Hz, single phase recommended

Note 1: The maximum cumulative length of daisy-chained cable is 22.5M (74 ft).

Note 2: Refer to Series 44 cabling diagram for printers.

Note 3: The maximum length of HP-IB cable is 6M (19.7 ft) for the master drive.

Note 4: Multi-unit cables 6M (19.7 ft).

Note 5: The maximum length of HP-IB cable is 2M (6.5 ft) for the master drive on Series 30, and 6M (19.69 ft) for the master drive on the Series 33 and 44.

PERIPHERALS SITE PREPARATION DATA

Electrical Power

These peripherals for the HP 3000 operate on 115 volt, 60 Hz, single phase (U.S.) or optionally on 230 volt, 50 Hz, single phase (International).

Installation

Installation is provided by a factory-authorized Customer Engineer and is included in the list price of all peripherals.

PERIPHERALS SUMMARY DATA — INTERNATIONAL

DESCRIPTION			STEADY STATE CURRENT	HEAT OUTPUT PER HOUR	WEIGHT (NET)	CABLE LENGTHS SERIES 3x/44	CABLE LENGTHS SERIES III
Disc Drives	7906S	20 Mb Drive	3.2A†	440 kcal	122.0 kg	Note 1	NA
	7920S	50 Mb Drive	3.0A†	420 kcal	142.0 kg	Note 1	Note 1
	7925S	120 Mb Drive	2.2A†	301 kcal	145.0 kg	Note 1	Note 1
		Controller in master drive	1.3A	200 kcal	NA	Note 5	NA
Magnetic Tape Drives	7970B	800 BPI Drive	0.9A	113 kcal	192.7 kg	NA	Note 4
	7970E	1600 BPI Drive	1.1A	154 kcal	192.7 kg	NA	Note 4
	7970E	1600 BPI Drive (HP-IB)	1.4A	198 kcal	192.7 kg	Notes 3, 4	NA
Line Printers	2601A	Daisy-Wheel Printer	0.6A	124 kcal	26.0 kg	3.0m	3.0m
	2608A	400 LPM	5.3A	731 kcal	97.0 kg	Note 2	15.2m
	2613A	300 LPM	2.5A	328 kcal	155.0 kg	15.2m	15.2m
	2617A	600 LPM	2.5A*	512 kcal	168.0 kg	15.2m	15.2m
	2619A	1000 LPM	6.3A*	1090 kcal	260.0 lb	15.2m	15.2m
	2631B	180 CPS	0.9A	126 kcal	24.0 kg	3.8m	3.8m
	2680A	Intelligent Page Printer	24A	3000 kcal	375.0 kg	8.0m	NA
Display Terminals	2640x	All Models	0.6A	73 kcal	20.0 kg	4.5m	4.5m
	2641A	APL Station	0.6A	73 kcal	20.0 kg	4.5m	4.5m
	2645x	All Models	0.7A	88 kcal	23.0 kg	4.5m	4.5m
	2647A	Intelligent Graphics	1.1A	140 kcal	23.0 kg	4.5m	4.5m
	2648A	Graphics Terminal	0.9A	111 kcal	23.0 kg	4.5m	4.5m
	2621A	Interactive Terminal	0.25A	35 kcal	16.1 kg	5.0m	5.0m
	2621P	Printing Terminal	0.6A	75 kcal	18.0 kg	5.0m	5.0m
	2624A	Display Station	0.7A	103 kcal	18.8 kg	5.0m	5.0m
		With Option 050	1.2A	146 kcal	21.0 kg	5.0m	5.0m
	2626A	Display Station	0.7A	103 kcal	18.8 kg	5.0m	5.0m
		With Option 050	1.2A	146 kcal	21.0 kg	5.0m	5.0m
	2642A	Display Station with Mini-Disc	2.0A	129 kcal	29.5 kg	4.5m	4.5m
Printing Terminal	2635B	180 CPS	1.0A	142 kcal	24.0 kg	3.8m	3.8m
	2675A	120 cps with Dual Cartridge Tapes	0.6A	73 kcal	10.0 kg	5.0m	5.0m
Plotter & Plotter/ Printer	7221B	Multicolor Graphics Plotter	1.2A	155 kcal	18.2 kg	NA	NA
	72215	Multicolor Graphics Plotter	1.2A	155 kcal	29.6 kg	NA	NA
	7225A	Graphics Plotter	0.5A	60 kcal	8.0 kg	NA	NA
	7245A	Plotter/Printer	1.3A	258 kcal	19.0 kg	NA	NA
	7310A	Graphics Plotter	2.4A	215 kcal	24.9 kg	NA	NA
	9872B	Multicolor Graphics Plotter	1.2A	155 kcal	18.2 kg	NA	NA
	98725	Multicolor Graphics Plotter	1.2A	155 kcal	29.6 kg	NA	NA
Other	30104A	Paper Tape Reader	1.25A	172 kcal	19.0 kg	NA	7.6m
	30105A	Paper Tape Punch	1.0A	172 kcal	16.0 kg	NA	7.6m
	30106A	Card Reader	2.0A	310 kcal	34.0 kg	NA	7.6m
	30119A	Card Reader/Punch	2.6A	365 kcal	118.0 kg	NA	15.2m
	7260A	Optical Mark Reader	0.6A	116 kcal	24.5 kg	2.3m	2.3m

**10A recommended breaker current*

†Operation on 220 volt, 50 Hz, single phese recommended

Notes:

1. The maximum cumuletive length of daisy-chained cable is 22.56 M (74 ft).

2. Refer to Series 44 cabling diagram for printers.

3. The maximum length of HP-IB cable is 6M (19.69 ft) for the master drive.

4. Multi-unit cables 6M (19.69 ft).

5. The maximum length of HP-IB cable is 2M (6.56 ft) for the master drive on Series 30, end 6M (19.69 ft) for the mester drive on the Series 33 end 44.

NA = Not Appliceble.

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